

HEARD

# DRAFT TECHNICAL REPORT

VOLUME II

## SOCIOECONOMICS

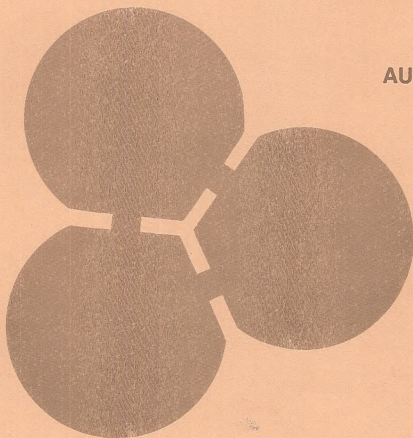


88016703

STATE OF UTAH

PREPARED FOR BUREAU  
OF LAND MANGEMENT

AUGUST 1982



# UINTAH BASIN SYNFUELS DEVELOPMENT

TD  
195  
.595  
U35  
1982  
Suppl.5  
v.2





88016703

TD  
195  
595  
435  
1982  
Suppl. 5  
V. 2

VOLUME II

BLM Library  
D-553A, Building 50  
Denver Federal Center  
P. O. Box 25047  
Denver, CO 80225-0047

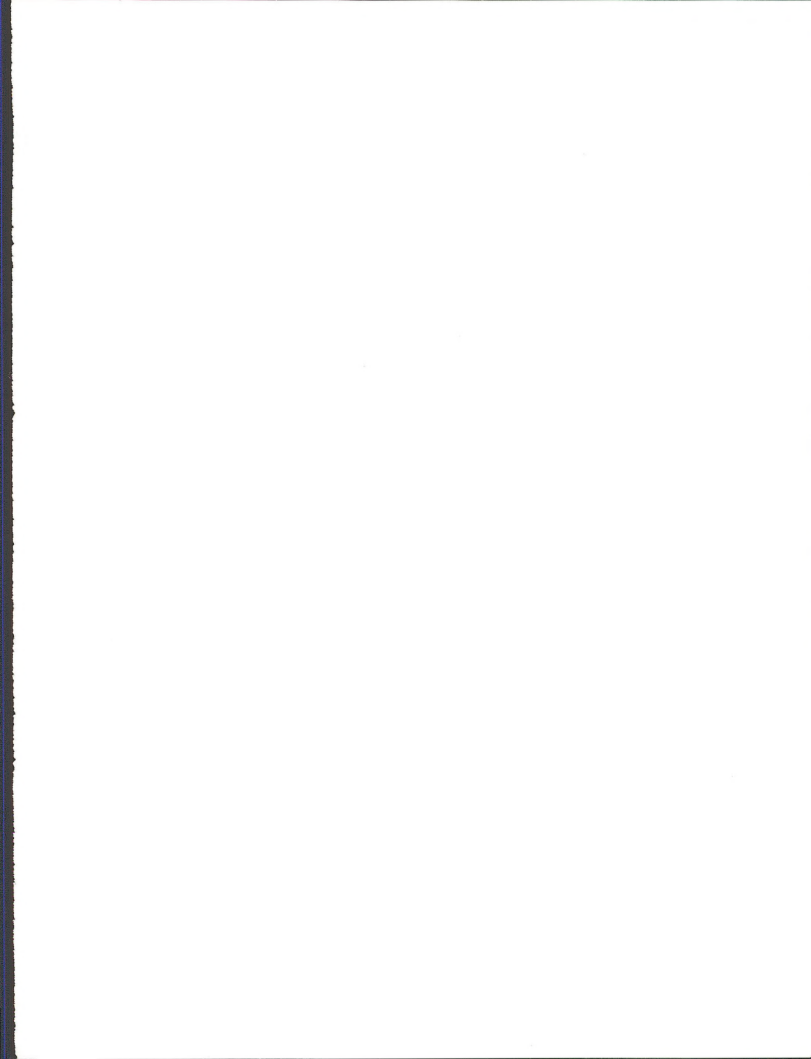
Socio-Economic Technical Report for the  
Uintah Basin Synfuels Environmental Impact Statement

Submitted By

UTAH State Energy Office  
Utah State Planning Coordinator's Office  
Department of Community and Economic Development

July 26, 1982

1-10-54, Building 50  
1-10-54, Building 50  
1-10-54, Building 50  
1-10-54, Building 50  
1-10-54, Building 50





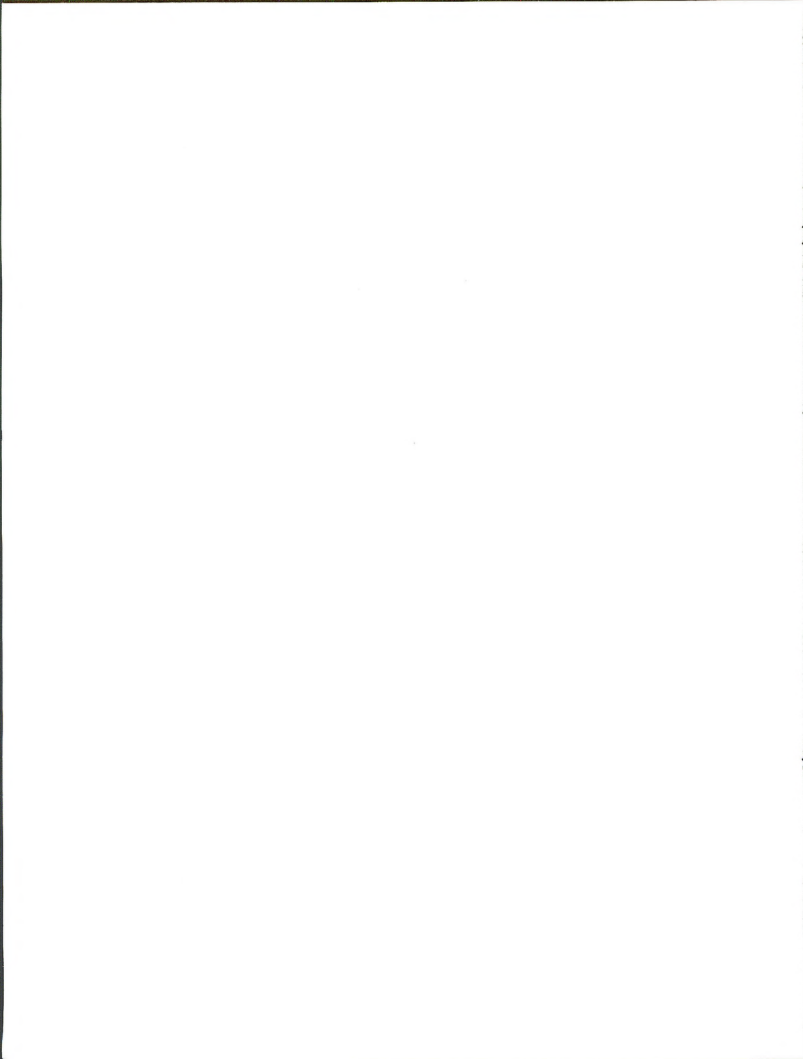


TABLE OF CONTENTS  
Volume II: Site Specific Analysis

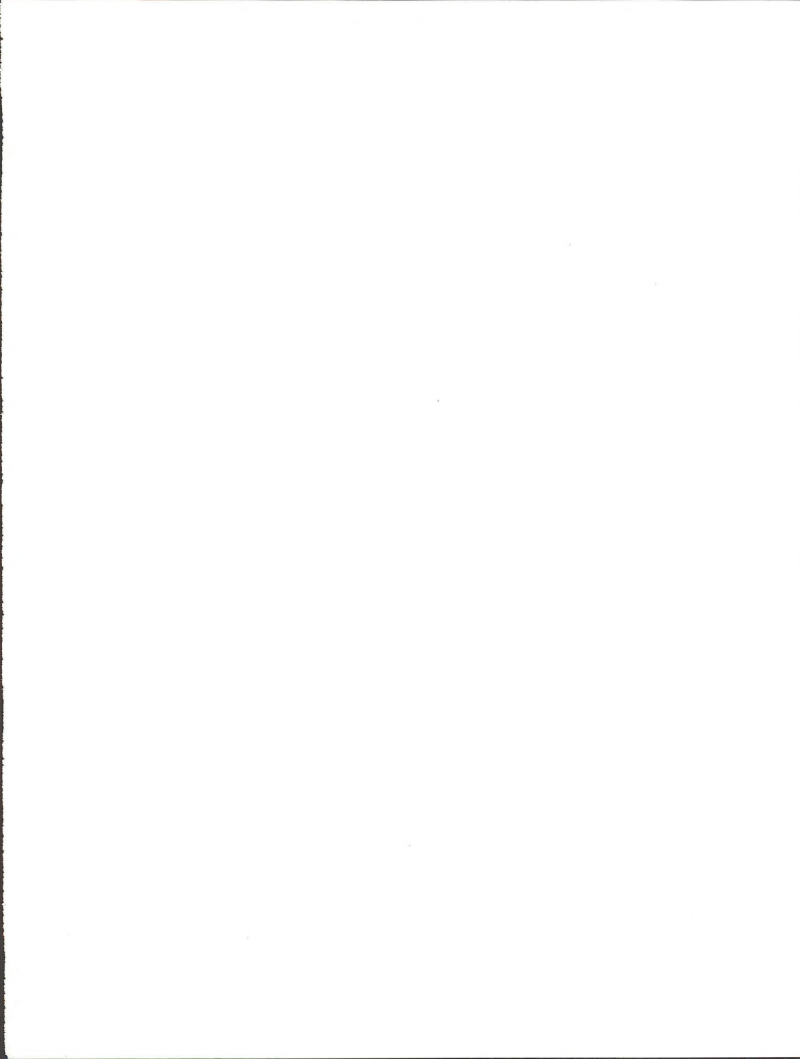
Introduction	II-1
Chapter E - Enercor-Mono Power	II-8
Chapter M - Magic Circle	II-34
Chapter P - Paraho	II-62
Chapter S - Syntana	II-89
Chapter T - Tosco	II-117

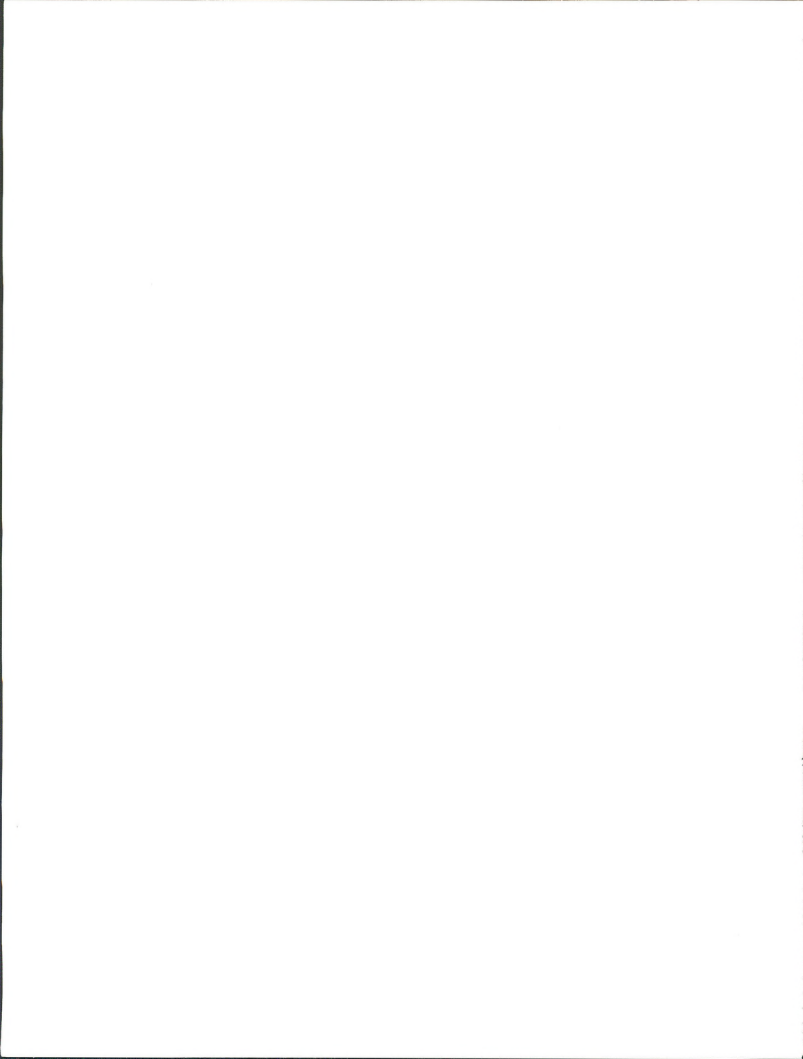
GLOSSARY

APPENDIX









## INTRODUCTION

The site specific projections focus on the impact of each project; this level of analysis allows examination of potential impacts resulting from the development of a given project irrespective of the development of any other synthetic fuel project. Five projects considered in this section: (1) Enercor-Mono Power (Rainbow), (2) Magic Circle, (3) Paraho, (4) Syntana-Utah, and (5) Tosco. The projections for each project are based on the full production employment levels and the respective construction camp assumptions as described in the regional analysis. The employment figures are in Table R3A-16. The impacts are analyzed for the peak year of construction employment and for the year in which operations employment reaches its maximum level associated with full production. Throughout the site specific analysis, the direct employment impacts accrue to Uintah County which contains all five project sites. A second analysis is made for each project by including interrelated projects in the study area which are not specifically considered in this report. The interrelated projects are the same as those described in the regional analysis, and the impact projections are based on the same employment assumptions.

In this section, the population and employment impacts will be discussed separately for each project. These impacts will be described for Duchesne and Uintah Counties in Utah and for the Colorado communities of Rangely and Dinosaur. Grand County is not impacted by any of the projects included in the site specific analysis and is, therefore, omitted from discussion in this section. The selection of the communities to be analyzed



in this study is based on the criterion that the population impact is a 10 percent or greater increase to the baseline population. The population impacts are discussed for the communities of Ballard, Myton, Roosevelt, Rangely, Dinosaur, and Vernal. Tables SSA-1 and SSA-3 summarize the impact projections at the county levels for site specific projects and for the site specific project plus interrelated projects. The community level impact projections for both scenarios are provided in Tables SSA-2 and SSA-4. The affected environment is fully described in Chapter R2 of Volume I. That discussion will not be repeated here. Volume II will focus on the consequences of the site specific project impacts.

#### Personal Income Impact Projections

The site specific wage and income projections are based on the same assumptions used in the regional analysis. Table SSA-5 provides detailed wage and income projections for each industrial sector. These projections are only in the peak construction year and the full operations year for each project. Total personal income and per capita personal income impacts in the study area are also summarized in the same table. The county level impacts in Utah and impacts for the Colorado area on personal income were determined using the per capita personal income projections and the site specific population impacts described in Volume I, Section R3A. This information is summarized in Table SSA-6.

TABLE SSA-1  
SITE SPECIFIC PROJECTIONS  
HIGH LEVEL DEVELOPMENT SCENARIO  
COUNTY IMPACTS BY PROJECT

Project and Peak Years	Uintah County					Duchesne County				Colorado Area (Rio Blanco/Moffat County(s)) <sup>5</sup>			
	Total Pop. <sup>1</sup>	Comm. Pop. <sup>2</sup>	Employment	Households <sup>3</sup>	School Age Pop. <sup>4</sup>	Total Pop.	Employment	Households	School Age Pop.	Total Pop.	Employment	Households	School Age Pop.
<u>Paraho</u>													
1985	4,218	2,631	3,226	822	545	630	100	197	130	269	35	84	56
1987	3,337	2,984	2,138	944	582	613	103	194	120	289	38	91	56
<u>Syntana</u>													
1985	2,654	1,647	2,042	533	338	422	65	137	87	173	23	56	36
1995	6,435	6,435	3,217	1,792	1,763	1,125	202	313	308	571	81	159	157
<u>Magic Circle</u>													
1985	3,692	2,886	2,730	880	569	1,268	200	387	250	123	18	38	24
1988	3,937	3,937	2,542	1,223	739	1,745	276	542	328	157	22	49	30
<u>Tosco</u>													
1986	6,807	5,446	5,119	1,884	1,084	2,301	347	796	458	423	54	146	84
1989	4,870	4,829	3,048	1,519	922	1,883	299	592	360	259	36	81	49
<u>Enercor-Mono Power (Rainbow)</u>													
1984	613	613	417	215	123	170	27	60	34	69	9	25	14
1985	704	704	466	232	139	164	27	54	32	73	10	24	14

<sup>1</sup> Total Pop. = Total impact population in both communities and construction camps.

<sup>2</sup> Comm. Pop. = Impact population living in communities and not living in construction camps.

<sup>3</sup> Households = Does not include population in construction camps.

<sup>4</sup> School Age Pop. = Population in the age group 5-17.

<sup>5</sup> The Colorado Area impacts are the sum of the community impacts for Rangely and Dinosaur which are presented in Table SSA-2

TABLE SSA-2  
SITE SPECIFIC PROJECTIONS  
HIGH LEVEL DEVELOPMENT SCENARIO  
COMMUNITY IMPACTS BY PROJECT

UTAH										COLORADO			
Project	Vernal		Roosevelt		Ballard		Myton		Rangely 1		Dinosaur		
	Pop.	Households	Pop.	Households	Pop.	Households	Pop.	Households	Pop.	Households	Pop.	Households	
<u>Paraho</u>													
1985	1,209	403	370	116	*	*	*	*	151	47	118	37	
1987	1,465	464	364	115	*	*	*	*	162	51	127	40	
<u>Tosco</u>													
1986	2,260	907	1,369	474	83	29	68	24	237	82	186	64	
1989	2,331	733	1,123	353	67	21	56	18	145	45	114	36	
<u>Magic Circle</u>													
1986	1,388	423	753	230	44	13	38	12	69	21	54	17	
1988	1,891	587	1,041	323	62	19	52	16	88	57	69	22	
<u>Syntana</u>													
1985	806	261	248	80	*	*	*	*	97	31	76	25	
1995	3,172	883	670	187	*	*	*	*	320	89	251	70	
<u>Enercor (Rainbow)</u>													
1986	298	105	*	*	*	*	*	*	*	*	*	*	
1985	344	113	*	*	*	*	*	*	*	*	*	*	

\* Indicates no significant impact in that community.

1 The Impacts for Rangely are not significant using the criterion of an impact of 10% or greater as being significant. However the data has been presented here to complete the level of detailed information referred to in Table SSA-1.

TABLE SSA-3  
SITE SPECIFIC PROJECTIONS  
HIGH LEVEL DEVELOPMENT SCENARIO  
PLUS INTERRELATED PROJECTS  
COUNTY IMPACTS BY PROJECT

Project and Peak Years	Utah County					Duchesne County				Colorado Area (Rio Blanco/Moffat County(s)) <sup>5</sup>			
	Total Pop. <sup>1</sup>	Comm. Pop. <sup>2</sup>	Employment	Households <sup>3</sup>	School Age Pop. <sup>4</sup>	Total Pop.	Employment	Households	School Age Pop.	Total Pop.	Employment	Households	School Age Pop.
<u>Paraho</u>													
1985	5,849	4,084	4,331	1,315	837	993	172	320	203	415	55	133	85
1987	3,937	7,783	6,313	1,104	1,538	1,903	346	624	377	790	108	258	156
<u>Syntana</u>													
1985	4,285	3,100	1,347	1,026	630	785	137	260	160	319	43	105	65
1995	18,266	18,264	9,215	4,211	4,769	3,679	802	1,051	957	2,587	684	742	669
<u>Magie Circle</u>													
1985	7,367	6,043	5,257	1,932	1,199	2,061	355	651	408	445	63	145	88
1988	13,520	11,389	9,316	3,715	2,227	3,839	671	1,242	746	982	152	325	195
<u>Tosco</u>													
1986	10,482	8,603	7,646	2,936	1,714	3,094	502	1,060	616	745	99	253	148
1989	15,445	13,395	10,358	4,403	2,666	4,203	753	1,373	832	1,671	435	556	336
<u>Enercor-Mono Power (Rainbow)</u>													
1984	2,487	1,967	1,822	682	397	567	93	197	114	217	28	76	44
1985	2,335	2,157	1,571	725	431	527	99	177	105	219	30	73	43

<sup>1</sup> Total Pop. = Total impact population in both communities and construction camps.

<sup>2</sup> Comm. Pop. = Impact population living in communities and not living in construction camps.

<sup>3</sup> Households = Does not include population in construction camps.

<sup>4</sup> School Age Pop. = Population in the age group 5-17.

<sup>5</sup> The Colorado Area impacts are the sum of the community impacts for Rangely and Dinosaur which are presented in Table SSA-1

TABLE SSA-4  
SITE SPECIFIC PROJECTIONS  
HIGH LEVEL DEVELOPMENT SCENARIO  
PLUS INTERRELATED PROJECTS  
COMMUNITY IMPACTS BY PROJECT

Project	UTAH				COLORADO							
	Vernal Households		Roosevelt Households		Ballard Households		Myton Households		Rangely Households		Dinosaur Households	
Paraho												
1985	1,854	595	614	199	*	*	*	*	233 <sup>1</sup>	71	182	56
1987	3,333	987	1,234	405	*	*	*	*	443	136	347	106
Tosco												
1986	3,849	1,317	1,901	651	126	43	95	33	417	128	328	101
1989	5,667	1,856	2,688	880	180	59	134	44	903	277	768	235
Magic Circle												
1986	2,617	833	1,285	407	87	27	65	21	249 <sup>1</sup>	76	196	60
1988	4,788	1,556	2,452	795	167	54	123	40	548	168	434	133
Syntana												
1985	1,371	453	492	163	*	*	*	*	179 <sup>1</sup>	55	140	43
1995	7,834	2,230	2,428	729	*	*	*	*	1,393	427	1,194	366
Enercor (Rainbow)												
1984	824	286	*	*	*	*	*	*	*	*	*	*
1985	909	305	*	*	*	*	*	*	*	*	*	*

\* Indicates no significant impact in that community.

<sup>1</sup> The impacts for Rangely are not significant using the criterion of any impact of 10% or greater as being significant. However the data has been presented here to complete the level of detailed information referred to in Table SSA-1.

TABLE SSA-5  
Personal Income Impact Projections  
Project Specific

(Averages in 1980 Dollars; Total Figures in Thousands of 1980 Dollars)

	TOSCO		PARAHO		MAGIC CIRCLE		SYNTANA		ENERCOR	(RAINBOW)
	1986	1989	1985	1987	1986	1988	1985	1995	1984	1985
Mining										
Average Monthly Wage	2,194	2,309	2,157	2,232	2,194	2,270	2,157	2,559	2,120	2,157
Number of Employees	667	2,189	726	1,101	1,431	1,891	256	2,102	120	275
Total Wage Payment	17,561	60,653	18,792	29,489	37,675	51,511	6,626	64,548	3,053	7,118
Construction										
Average Monthly Wage	2,670	2,811	2,625	2,716	2,670	2,763	2,625	3,114	2,581	2,625
Number of Employees	3,669	187	2,110	590	864	60	1,547	86	208	84
Total Wage Payment	117,555	6,308	66,465	19,229	27,683	1,989	48,731	3,214	6,442	2,646
Manufacturing										
Average Monthly Wage	909	956	893	924	909	940	893	1,060	878	893
Number of Employees	23	20	10	11	13	17	6	23	2	3
Total Wage Payment	251	229	107	122	142	192	64	293	21	32
Transp., Communication & Utilities										
Average Monthly Wage	1,911	2,012	1,879	1,944	1,911	1,978	1,879	2,229	1,847	1,879
Number of Employees	56	50	25	28	31	42	16	59	6	7
Total Wage Payment	1,284	1,207	564	653	711	997	361	1,578	133	158
Wholesale & Retail Trade										
Average Monthly Wage	859	904	844	874	859	889	844	1,002	830	844
Number of Employees	339	302	152	168	188	254	94	349	36	41
Total Wage Payment	3,494	3,276	1,539	1,762	1,938	2,710	952	4,196	359	415
Finance, Insurance & Real Estate										
Average Monthly Wage	941	990	925	957	941	973	925	1,097	909	925
Number of Employees	44	39	19	22	24	33	12	47	4	5
Total Wage Payment	497	463	211	253	271	385	133	619	44	56
Services										
Average Monthly Wage	780	821	767	793	780	807	767	910	754	767
Number of Employees	219	199	97	109	121	167	60	241	23	26
Total Wage Payment	2,050	1,961	893	1,037	1,133	1,617	552	2,632	208	239
Government										
Average Monthly Wage	947	997	931	964	947	980	931	1,105	916	931
Number of Employees	391	349	172	194	215	292	107	477	42	48
Total Wage Payment	4,443	4,175	1,922	2,244	2,443	3,434	1,195	6,325	462	536
Non-Farm Proprietors (NFP)										
Average Monthly Income	1,251	1,317	1,230	1,273	1,251	1,295	1,230	1,459	1,209	1,230
Number of NFP	113	101	50	56	63	85	31	117	12	14
Total NFP Income	1,696	1,596	738	855	946	1,321	458	2,048	174	207
Other Labor Income (OLI)										
Average Monthly OLI	108	113	106	110	108	111	106	126	104	106
Number of Recipients	5,407	3,333	3,311	2,723	2,886	2,756	2,098	3,384	441	489
Total OLI	7,007	4,520	4,212	2,934	3,740	3,671	2,669	5,117	550	622
Property Income Plus Transfer Payments minus Individual Contribution for Social Insurance										
Average Property Income	146	154	144	149	146	151	144	170	141	144
Population	9,532	7,013	5,119	4,241	5,087	5,839	3,251	8,131	855	942
Total Property Income	16,700	12,960	8,846	7,583	8,912	10,580	5,618	16,587	1,447	1,628
TOTAL PERSONAL INCOME	172,539	97,349	104,288	66,162	85,594	78,407	67,359	107,157	12,892	13,657
AVERAGE PER CAPITA INCOME	18,101	13,881	20,373	15,601	16,826	13,428	20,719	13,179	15,078	14,498

CHAPTER E

ENERCOR-MONO POWER

## ENERCOR-MONO POWER

### Impact Projections

The Enercor-Mono Power project at the Rainbow site is designed for a production level of 5,000 barrels of oil per day (bopd). The project will require four years of construction beginning in 1982 and peaking during 1984 and 1985 with a total construction employment of 200. Operations will begin during the second year of construction (1983) and will reach full production in 1985. The years designated for detailed analysis are 1984 and 1985. It should be noted that though operations employment will reach its maximum of 275 jobs during 1985, there will still be 75 construction jobs on site. This tends to distort the impact of the permanent operations phase.

With its largest population impact in Uintah County, this project will have a significantly smaller impact on the study area than the other four projects. During the 1984 construction peak, a population of 613 is projected; this will be 72 percent of the total population impact generated by development of the Enercor-Mono Power project. The projected population impact for 1985 (full operation) is 704, 75 percent of the total impact. The population impact will be relatively small for both years when compared to the baseline population projection of 25,730 (1985); the impact will represent only a 3 percent increase. Since the projected impacts will not be significant, a detailed discussion of them is not included; however, the information is provided in Tables SSA-1 and SSA-2.

The total employment impact for the Uintah County will be 417 in 1984 and 466 in 1985. In Duchesne County the population impact of 170 in 1984 will represent only a 1 percent increase in population. In 1985 the population impact will be 164. An insignificant impact is projected for the Colorado area.

Vernal will be the only community impacted by the project. The population impact will be 298 (1984) and 344 (1985) which will represent an increase of about 100 households.

However, the impact of the Enercor-Mono Power project plus interrelated projects will present a different picture. The total population impact in Uintah County will be more than three times as great as the impact of the project alone. The impact projections for the year 1984 will only slightly



differ than those for 1985 so this discussion will focus on the data for 1985. The population impact in Uintah County will be almost 2200 not including those living in construction camps. This increase of approximately 8 percent over the baseline projection and that would mean an addition of 725 households to the county and 431 to the school-age population. This will translate into an impact of about 900 people moving into Vernal. In Duchesne County the population increase will be approximately 500 in 177 new households. The impact on the Colorado area will be insignificant.

## Housing

Baseline growth forecasts for Uintah County in 1985, show a potential demand for 7,706 dwelling units as shown in Table E-1. Vernal would potentially be expected to accommodate 3,087 of these units. Duchesne County would face a demand for 5,323 dwelling units at the same time.

By 1985 the Enercor project would require 207 dwelling units in Uintah County. 101 of those units in Vernal, and another 48 dwelling units in Duchesne County.

If the Enercor cumulative impact scenario at full production were to occur, the demand for housing in Uintah County would increase to 8,406 units by 1985. Vernal would be expected to accommodate 3,380 of these dwelling units, and Duchesne County would grow to 5,494 dwelling units under the same scenario.

TABLE E-1

ENERCOR:  
HOUSING

	<u>Uintah County</u>		<u>Duchesne County</u>	
	<u>1984</u>	<u>1985</u>	<u>1984</u>	<u>1985</u>
Forecast of Demands: Households				
Baseline Demand	8,229	7,706	5,270	5,323
Enercor Demand	180	207	50	48
Interrelated Project Imp	467	493	137	183
Cumulative Increase	647	700	187	171
Total Demand	9,876	8,406	5,457	5,494
Percent Increase	2.18	2.68	1.94	.9
Cumulative Percent Inc	7.86	9.08	3.54	3.21

Vernal

## Forecast of Demand: Households

Baseline Demand	3,428	3,087
Enercor Demand	88	101
Interrelated Project Imp	181	192
Cumulative Increase	269	293
Total Demand	3,697	3,380
Percent Increase	2.56	3.27
Cumulative Percent Increase	7.84	9.49

### Education

The Enercor project would increase student enrollments in Uintah County by 139 and in Duchesne County by 32 in 1985 as shown in Table E-2. This would represent a growth of slightly over two percent in Uintah County and would require an additional six classrooms and the same number of teachers. The forecasted impact in Duchesne County will be .67 percent, requiring one additional teacher & classroom.

TABLE E-2

ENERCOR:  
EDUCATION

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1984</u>	<u>1985</u>	<u>1984</u>	<u>1985</u>
Forecast of Demands: Students				
Baseline Demand	4,544	4,764	7,175	6,818
Enercor Impact	34	32	123	139
Interrelated Project Imp	80	73	274	292
Cumulative Increase	114	105	397	431
Total Demand	4,658	4,869	7,572	7,249
Percent Increase	.75	.67	1.71	2.04
Cumulative Percent Inc	2.51	2.20	5.53	6.32
Forecast of Demands: Teachers				
Baseline Demand	181.76	190.56	287.00	272.72
Enercor Impact	1.36	1.28	4.92	5.56
Interrelated Project Imp	3.20	2.92	10.96	11.68
Cumulative Increase	4.56	4.20	15.88	17.24
Total Demand	186.32	194.76	302.88	289.96
Percent Increase	.75	.67	1.71	2.04
Cumulative Percent Inc	2.51	2.20	5.53	6.32
Forecast of Demand: Classrooms				
Baseline Demand	181.76	190.56	287.00	272.72
Enercor Impact	1.36	1.28	4.92	5.56
Interrelated Project Imp	3.20	2.92	10.96	11.68
Cumulative Increase	4.56	4.20	15.88	17.24
Total Demand	186.32	194.76	302.88	289.96
Percent Increase	.75	.67	1.71	2.04
Cumulative Percent Inc	2.51	2.00	5.53	6.32

## Health

By 1985, four new hospital beds would be required from baseline growth projection over the existing 32 acute care beds in Duchesne County. Interrelated projects would add a demand for additional beds under the same scenario. Enercor's direct impact would cause an additional bed need of less than a third of a bed in Duchesne County by 1985, but in Uintah County the bed need might be increased by 1.41. This will represent a three percent cumulative increase in Duchesne County and an 8 percent increase in Uintah County.

The Enercor projects cumulative percent increase for ambulances would be 3 percent in Duchesne County and 8 percent in Uintah County by 1985. The demand for EMT's would grow at the same rate. The Enercor project, as well as interrelated projects, would raise the demand for dentists by 3 percent and 8 percent over baseline in Duchesne and Uintah Counties respectively. (See Table E-4).

The demand for physicians would grow to 25 under baseline growth assumptions by 1985, while interrelated projects could raise that by one additional physician. The Enercor project would provide a direct demand of less than one half a physician in the two county service area by 1985. (See Table E-3).

TABLE E-3

ENERCOR:  
HEALTHDuchesne and Uintah Counties19841985

## Forecast of Demands: Medical Doctors

Baseline Demand	24.67	24.17
Enercor Impact	0.44	0.48
Interrelated Project Imp	0.97	1.00
Cumulative Increase	1.41	1.48
Total Demand	26.08	25.66
Percent Increase	1.78	1.99
Cumulative Percent Increase	5.72	6.12

## Forecast of Demands: Nurses

Baseline Demand	74.02	72.51
Enercor Impact	1.30	1.45
Interrelated Project Impact	2.92	3.03
Cumulative Increase	4.22	4.48
Total Demand	78.24	77.00
Percent Increase	1.76	2.00
Cumulative Increase	5.70	6.18

## Forecast of Demands: Public Health Nurses

Baseline Demand	8.88	8.70
Enercor Impact	0.16	0.17
Interrelated Project Impact	0.35	0.36
Cumulative Increase	0.51	0.53
Total Demand	9.39	9.24
Percent Increase	1.80	1.95
Cumulative Percent Increase	5.74	6.09

TABLE E-4

ENERCOR:  
HEALTH

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1984</u>	<u>1985</u>	<u>1984</u>	<u>1985</u>
Forecast of Demands: Ambulances				
Baseline Demand	3.47	3.56	5.42	5.15
Enercor Impact	0.03	0.03	0.12	0.14
Interrelated Project Impact	0.08	0.07	0.27	0.29
Cumulative Increase	0.11	0.10	0.39	0.43
Total Demand	3.58	3.66	5.81	5.58
Percent Increase	0.86	0.84	2.21	2.72
Cumulative Percent Increase	3.11	2.81	7.20	8.35
Forecast of Demands: EMT's				
Baseline Demand	24.27	24.89	37.90	36.01
Enercor Impact	0.24	0.23	0.86	1.00
Interrelated Project Impact	0.56	0.51	1.90	2.03
Cumulative Increase	0.80	0.74	2.76	3.03
Total Demand	25.07	25.63	40.66	39.05
Percent Increase	0.99	0.92	2.27	2.78
Cumulative Percent Increase	8.30	2.97	7.28	8.41
Forecast of Demands: Dentists				
Baseline Demand	8.67	8.89	13.54	12.87
Enercor Impact	0.09	0.08	0.31	0.35
Interrelated Project Impact	0.20	0.18	0.68	0.73
Cumulative Increase	0.29	0.26	0.99	1.08
Total Demand	8.96	9.15	14.52	13.94
Percent Increase	1.04	0.90	2.29	2.72
Cumulative Percent Increase	3.34	2.92	7.31	8.39
Forecast of Demands: Hospital Beds				
Baseline Demand	34.68	35.56	54.15	51.46
Enercor Impact	0.34	0.33	1.23	1.41
Interrelated Project Impact	0.79	0.73	2.71	2.91
Cumulative Increase	1.13	1.06	3.94	4.32
Total Demand	35.81	36.62	58.09	55.78
Percent Increase	.98	.93	2.27	2.74
Cumulative Percent Increase	3.26	2.98	7.28	8.39



## Mental Health

Although baseline growth by 1985 (Table E-5) will call for a significant increase in the demand for mental health workers from the current 2.3 staff to 8.7 staff, the direct Enercor service impacts are projected to be a comparatively small .17 for social workers. For clinical psychologists/psychiatrists the need is projected to be .04 staff by 1985. This represents a 2 percent direct project impact and a 6 percent cumulative project increase.

TABLE E-5

ENERCOR:  
MENTAL HEALTHDuchesne and Uintah Counties

	<u>1984</u>	<u>1985</u>
Forecast of Demands: Social Workers		
Baseline Demand	8.82	8.70
Enercor Impact	0.16	0.17
Interrelated Project Imp	0.35	0.36
Cumulative Increase	0.51	0.53
Total Demand	9.33	9.23
Percent Increase	1.81	1.95
Cumulative Percent Increase	5.78	6.09
Forecast of Demands: Clinical Psychologists		
Baseline Demand	2.21	2.18
Enercor Impact	0.04	0.04
Interrelated Project Imp	0.09	0.09
Cumulative Increase	0.13	0.13
Total Demand	2.34	2.31
Percent Increase	1.81	1.83
Cumulative Percent Increase	5.88	5.96

## Law Enforcement

Law enforcement personnel will need to increase substantially in Uintah and Duchesne Counties under baseline growth projections by 1985. Table E-6 delineates forecast demands for officers and patrol cars from both baseline and Enercor growth scenarios. The cumulative increase from Enercor and the interrelated projects would reach 4 new officers over baseline demand in Uintah County by 1985. Enercor's direct impact will represent a 1.4 percent growth over baseline, but the cumulative increase, that is when viewed with the projected interrelated growth, would cause a 7.05 percent growth over baseline. In fact, three additional officers would be required in Uintah County by 1985 from the other interrelated projects, such as the White River Dam, White River Shale Project and the first 400 M.W. unit of the Bonanza Power Plant. Enercor's direct impact on law enforcement services, however, is forecast to be .72 patrolmen in Uintah County and .33 patrolmen in Duchesne County.

Baseline forecasts for patrol cars show substantial growth although Enercor's impact is comparatively small.

TABLE E-6

ENERCOR:  
LAW ENFORCEMENT

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1984</u>	<u>1985</u>	<u>1984</u>	<u>1985</u>
Forecast of Demand: Officers				
Baseline Demand	22.70	23.31	54.15	51.46
Enercor Impact	0.34	0.33	0.63	0.72
Interrelated Project Imp	0.23	0.21	2.71	2.91
Cumulative Increase	0.57	0.54	3.31	3.63
Total Demand	23.26	23.86	57.49	55.09
Percent Increase	1.50	1.42	1.16	1.40
Cumulative Percent Increase	2.51	2.32	6.11	7.05
Forecast of Demand: Patrol Cars				
Baseline Demand	5.67	5.83	13.54	12.87
Enercor Impact	0.09	0.08	0.16	0.18
Interrelated Project Imp	0.06	0.05	0.68	0.73
Cumulative Increase	0.15	0.13	0.84	0.91
Total Demand	5.82	5.96	14.37	13.77
Percent Increase	1.59	1.37	1.18	1.40
Cumulative Percent Increase	2.65	2.23	6.20	7.07

## Libraries

The already inadequate supply of books in the Roosevelt library would need to grow to 35,556 books by 1985 to meet state guidelines for service. With an Enercor demand for an additional 328 books, the cumulative increase of Enercor and interrelated projects scenario could reach 1,054 by 1985. This will represent a 3 percent cumulative increase.

The Uintah County Library faces a projected growth in demand under the baseline for 51,460 books in 1985; Enercor could stimulate demand for an additional 1,408 books in the same year. (Table E-7 delineates projected book needs and library space in Duchesne and Uintah Counties). Interrelated projects could cause an additional demand for 2,960 books. This could mean a 3 percent increase on demand from Enercor alone, and an 8 percent cumulative increase from Enercor and the interrelated projects.

TABLE E-7

ENERCOR:  
LIBRARIES

	<u>Uintah County</u>		<u>Duchesne County</u>	
	<u>1984</u>	<u>1985</u>	<u>1984</u>	<u>1985</u>
Forecast of Demands: Books				
Baseline Demand	54,148	51,460	34,676	35,556
Enercor Impact	1,226	1,408	340	328
Interrelated Project Imp	2,708	2,960	794	726
Cumulative Increase	3,934	4,368	1,134	1,054
Total Demand	58,082	55,828	35,810	36,610
Percent Increase	2.40	2.74	.98	.92
Cumulative Percent Increase	7.69	8.49	3.27	2.96
Forecast of Demands: Space				
Baseline Demand	13,537	12,865	8,669	8,889
Enercor Impact	306.5	352	85	82
Interrelated Project Imp	677	726.5	198.5	181.5
Cumulative Increase	983.5	1,078.5	283.5	263.5
Total Demand	14,521	13,944	8,953	9,153
Percent Increase	2.26	2.74	.98	.92
Cumulative Percent Increase	7.27	8.38	3.27	2.96

## Parks

The impacts on neighborhood park demand in Vernal from the Enercor project are shown on Table E-8. In 1985 the Enercor project would create the need for 2 additional acres for neighborhood parks in Vernal. Interrelated projects would add another 3 acres of demand. This represents a 3 percent direct impact and a 9.78 percent impact from interrelated projects and the Enercor project.

TABLE E-8  
ENERCOR  
PARKS  
(Neighborhood)

	<u>1984</u>	<u>Vernal</u> <u>1985</u>
Forecast of Demands: Parks (acres)		
Baseline Demand	60.89	55.75
Enercor Impact	1.79	2.06
Interrelated Project Impact	3.16	3.39
Cumulative Increase	4.95	5.45
Total Demand	65.82	61.20
Percent Increase	2.94	3.70
Cumulative Percent Increase	8.13	9.78



## Sewer

Baseline growth for sewer services in Vernal is projected to be substantial according to forecasts (see Table E-9) derived from UPED and application of state community service guidelines. A baseline demand of 1,014,800 waste flow gallons per day is projected for 1984. This demand would decrease to 929,100 waste flow gallons per day in 1985 under the baseline. Enercor's share of the total demand is 2.9 percent or 29,800 gallons in 1984 at peak construction, and 3.7 percent or 34,400 gallons in 1985 at full operations. While these impacts are small, unless improvements in Vernal's sewer system are made, the total forecast demand of 1,020,000 waste flow gallons per day will exceed the current system's capacity.

TABLE E-9

ENERCOR;  
SEWER

	<u>1984</u>	<u>Vernal</u> <u>1985</u>
Forecast of Demands: Sewer (waste flow gallons)		
Baseline Demand	1,014,800	929,100
Enercor Demand	29,800	34,400
Interrelated Project Imp	52,600	56,500
Cumulative Increase	82,400	90,900
Total Demand	1,097,200	1,020,000
Percent Increase	2.94	3.7
Cumulative Increase	8.12	9.78

## Water

Under the Enercor scenario, baseline growth in the city of Vernal is forecast to peak in 1984 as shown in Tables E-10, a through c. At that time 3,428 water connections could be required. The demand for water connections would decrease to 3,037 in 1985 under the baseline forecast. Total demand, that is baseline plus the interrelated projects as defined in population methodology, and Enercor (Rainbow) demand would peak at 3,697 water connections in 1984, the year of peak construction, and fall off to 3,380 connections at full operations in 1985. This represents a 3 percent growth over baseline at full operations.

Enercor could directly stimulate a demand for 70 connections in Vernal in 1984 would grow to 81 connections in 1985.

TABLE E-10a

ENERCOR:  
WATER

	<u>Vernal</u>	
	<u>1984</u>	<u>1985</u>
Forecast of Demands: Connections GPCD		
Baseline Demand	3,428	3,087
Enercor Demand	88	101
Interrelated Project Impact	181	191
Cumulative Increase	269	293
Total Demand	3,697	3,380
Percent Increase	3	3
Cumulative Percent Increase	8	10
Forecast of Demands: Water Rights GPCD (in thousands)		
Baseline Demand	4,395	247
Enercor Demand	70	81
Interrelated Project Impact	145	154
Cumulative Increase	215	234
Total Demand	2,958	2,704
Percent Increase	3	3
Cumulative Percent Increase	8	10

TABLE E-10b

ENERCOR:  
WATER

	<u>Vernal</u>	
	<u>1984</u>	<u>1985</u>
Forecast of Demands: Source Production GPCD (in thousands)		
Baseline Demand	8,790	493
Enercor Demand	141,	162,
Interrelated Project Impact	190	307
Cumulative Increase	430	469
Total Demand	5,915	5,408
Percent Increase	3	3
Cumulative Percent Increase	8	10
Forecast of Demands: Storage GPCD (in thousands)		
Baseline Demand	4,395	247
Enercor Demand	70	81
Interrelated Project Impact	145	154
Cumulative Increase	215	234
Total Demand	2,958	2,704
Percent Increase	3	3
Cumulative Percent Increase	8	10

TABLE E-10c

## ENERCOR:

## WATER

		<u>Vernal</u>	
		<u>1984</u>	<u>1985</u>
Forecast of Demands:	Supply	GPCD (in thousands)	
	Baseline Demand	8,790	493
	Enercor Demand	141,	162,
	Interrelated Project Impact	190	307
	Cumulative Increase	430	469
	Total Demand	5,915	5,408
	Percent Increase	3	3
	Cumulative Percent Increase	8	10

## Transportation

The Enercor-Mono Power project would generate a minimum amount of additional traffic on the transportation network; however, truck traffic would significantly increase. Table E2C-1 shows the projected traffic volume and a LOS analysis for the network.

A comparison with baseline projections shows very little increase in traffic on the highway network. The level-of-service on all existing roads will essentially remain the same when compared to baseline forecasts. Interstate 70 and S.R. 88 will not experience any traffic increases from the Enercor-Mono Power project.

Until a water system can be completed, water is proposed to be tanked to the site, generating the largest number of truck travel. Trucks transporting soda ash, diesel fuel, crude oil and other supplies will also increase to an estimated total of 27 truck trips per day. Most of these trucks would be headed to Vernal, Roosevelt and points further west.

TABLE E2C-1

ENERCOR - MOND POWER  
TRAFFIC PROJECTIONS\*  
(Baseline Included)

BASELINE TRAFFIC PROJECTIONS\*

Highway Link	1984	1985	V/C 1984	LOS 1984	V/C 1985	LOS 1985	1984	1985	V/C 1985	LOS 1985
U.S. 40										
Co. Line to 264	6,062	6,650	.66	C	.72	D	5,306	5,440	.59	C
264 to 88	3,620	3,827	.39	B	.42	B	3,493	3,706	.40	B
88 to Vernal	3,854	4,076	.42	C	.44	C	3,727	3,955	.43	C
Vernal to Jensen	5,037	5,376	.62	C	.66	C	5,020	5,356	.66	C
Jensen to 45	2,218	2,368	.31	B	.33	B	2,201	2,348	.32	B
45 to Utah/Colo I-70	1,916	2,032	.26	B	.28	B	1,866	1,975	.27	B
SR 163 to Utah/Colo SR 88	3,872	4,175	.10	A	.11	A	3,872	4,175	.11	A
U.S. 40 to SR 264	356	364	.05	A	.06	A	356	364	.06	A
SR 264 to Ouray New Road "C"	410	419	.06	A	.06	A	410	419	.06	A
SR 45	--	--	--	--	--	--	--	--	--	--
Northern	338	352	.05	A	.05	A	305	315	.05	A
Southern	354	368	.05	A	.05	A	321	331	.05	A
New Road "D"	379	414	.04	A	.04	A	--	--	--	--
Colo. 64										
Dinosaur to Rangely	3,872	4,134	.42	B	.45	C	3,821	4,077	.44	C
New Road "A"										
Vernal to SR 45	346	378	.04	A	.04	A	--	--	--	--

\* These numbers represent average annual daily traffic.

V/C indicates Volume to Capacity Ratio.

LOS indicates Level of Service.



CHAPTER M

MAGIC CIRCLE

## MAGIC CIRCLE

### Impact Projections

The Magic Circle project will produce 31,500 bpd. resulting in a peak level of construction employment (1986) of 1000 and employing 1,890 at full operation by 1988. Most of the construction workers (800) will be housed within a construction camp facility. The total population impact in Uintah County will be an increase of 25 percent during peak construction. For the proportion of the population not living in construction camps this would mean an additional 2,900 people. Total employment in the county would also increase by 25 percent. In Duchesne County the project will create a 7 percent increase in population. This construction phase will span six years during which time the operations employment will also increase toward a full production work force. When construction employment is at its highest, the operations employment will exceed it by 43 percent. Thus, the critical impact on local governments, at peak construction levels, will come from the operations work force. This type of impact will present different problems from those usually associated with peak construction employment.

In 1986 Uintah County will absorb most of the population influx. The construction camp will be located in Uintah County, and, in addition, the largest percentage of the operation workers will locate there. School-age population increases represent an additional 570 students or an 8 percent increase. Half of the new households will be in Vernal; the remainder will be dispersed among the unincorporated areas of the county and Ballard. For Vernal, this will be a significant impact of 15 percent increase in population.

In Duchesne County, the population impact will be only a 7 percent increase; however, most of these people will locate in Roosevelt, increasing the population 13 percent.

At full operation employment levels, the population impact to Uintah and Duchesne counties will be an increase of 15 percent and 10 percent respectively. The communities of Vernal and Duchesne will feel the most significant changes with 18 percent and 17 percent increases in population. The impacts in Colorado will be relatively small (157) and evenly distributed between Rangely and Dinosaur.

Adding interrelated projects to the scenario will dramatically increase growth impacts in both counties. In Uintah, the population impact at peak construction will be an increase of 28 percent to the baseline; in Duchesne, 11 percent. By 1988 the population impacts will jump to 51 percent and 21 percent. At the community level this represents population increases for Vernal of 27 to 50 percent and for Roosevelt, 23 to 44 percent. For Colorado, a population increase of nearly 1,000 people is projected. The population impacts to Rangely (548) and Dinosaur (434) will be significant.

## Housing

Baseline forecasts for housing demand show a potential need for 8,211 units in Uintah County by 1988 (see Table M-1). A total of 3,393 of those units might be required in Vernal, while 232 could be required in Ballard. The cumulative impact from Magic Circle and the other assumed growth could increase the demand for dwelling units by 3,650 in Uintah County. The direct Magic Circle demand for 1,158 dwelling units represents a 14 percent growth over baseline. Vernal could be expected to see an increased demand from the Magic circle project of 556 dwelling units. This would represent a 16 percent growth over baseline.

Duchesne County would see a baseline growth in demand for housing rise to 5,460 dwelling units by 1988. Roosevelt would be expected to supply 1,748 of those units, while Myton might supply 217. The Magic Circle direct project impacts would bring a 9.4 percent growth over baseline demand for housing within the county. The cumulative impact scenario for Magic Circle could bring a potential demand for 1,213 dwelling units in Duchesne County. These units could be comprised of 377 units in Roosevelt, 106 dwelling units in Myton, and the remainder scattered through the unincorporated area.

TABLE M-1

## MAGIC CIRCLE:

## HOUSING

	<u>Uintah County</u>		<u>Duchesne County</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Households				
Baseline Demand	7,887	8,211	5,386	5,460
Magic Circle Demand	1,731	1,158	373	513
Interrelated Project Imp	1,052	2,492	264	200
Cumulative Increase	2,783	3,650	1,637	1,213
Total Demand	10,670	11,861	6,023	6,173
Percent Increase	22	14	7	9
Cumulative Percent Increase	35	44	30	22

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Households				
Baseline Demand	3,192	3,393	1,670	1,748
Magic Circle Demand	408	556	221	306
Interrelated Project Imp	410	1,411	177	71
Cumulative Increase	818	1,967	398	377
Total Demand	4,010	5,360	2,068	2,125
Percent Increase	13	16	13	18
Cumulative Percent Increase	26	58	24	22

	<u>Ballard</u>		<u>Myton</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Households				
Baseline Demand	215	232	207	217
Magic Circle Demand	13	18	11	1
Interrelated Project Impact	14	0	9	105
Cumulative Increase	27	18	20	106
Total Demand	242	250	227	323
Percent Increase	6	8	5	1
Cumulative Percent Increase	13	8	1	5

## Education

At full operations, Magic Circle would significantly impact the educational system in both Uintah and Duchesne School Districts. Magic Circle would stimulate demand for an additional 30 classrooms and teachers in Uintah District by full operation in 1988 (see Table M-2). Interrelated projects would increase demand by an additional 60 teachers under the same scenario. This represents a 28.86 percent direct growth over baseline if the interrelated projects are considered. This impact is the equivalent of two and half classrooms and teachers per grade over the baseline growth from the direct impact of the project alone. Duchesne District would require an additional 13 classrooms and teachers over the baseline for the Magic Circle project at full operations in 1988. Interrelated projects would add a demand for 17 additional teachers and classrooms. Magic Circle's direct growth would bring a 6.35 percent growth. Magic Circle and the interrelated projects would reach 14 percent.

TABLE M-2

## MAGIC CIRCLE:

## EDUCATION

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecast of Demand: Students				
Baseline Demand	4,771	5,166	6,985	7,716
Magic Circle Impact	250	328	569	739
Interrelated Project Impact	158	418	630	1,488
Cumulative Increase	408	746	1,199	2,227
Total Demand	5,179	5,912	8,184	9,943
Percent Increase	5.24	6.35	8.15	9.58
Cumulative Percent Increase	8.55	14.44	17.17	28.86
Forecast of Demands: Classrooms				
Baseline Demand	190.84	206.64	279.4	308.64
Magic Circle Impact	10.00	13.12	22.76	29.56
Interrelated Project Impact	6.32	16.72	25.20	59.52
Cumulative Increase	16.32	29.84	47.96	89.08
Total Demand	207.16	236.48	327.36	397.72
Percent Increase	5.24	6.35	8.15	9.58
Cumulative Percent Increase	8.55	14.44	17.17	28.86
Forecast of Demands: Teachers				
Baseline Demand	190.84	206.64	279.4	308.64
Magic Circle Impact	10.00	13.12	22.76	29.56
Interrelated Project Impact	16.32	16.72	25.2	59.56
Cumulative Increase	26.32	29.84	47.96	89.08
Total Demand	207.16	236.48	327.36	397.72
Percent Increase	5.24	6.35	8.15	9.58
Cumulative Percent Increase	8.55	14.44	17.17	28.86

## Health

The primary impact on hospital facilities from the Magic Circle project at full operations in 1988 may be felt in the Uintah County, Ashley Valley Hospital. The cumulative increase in bed demand from Magic Circle and interrelated projects in 1988 would require 27 beds (see Table M-3). The direct project impacts would stimulate 14 percent growth beds need. The impacts on the Duchesne County Hospital should be substantially smaller. State standards for hospital beds forecast Magic Circle's direct impact at 3.5 beds which is a 9.7 percent growth over baseline demand of 37 beds. Interrelated projects would add a need for 4 additional beds.

The impact on health manpower from the Magic Circle project would be significant. Demand for physicians would more than double from the current 16 to 36 by 1988 (see Table M-4). This impact by Magic Circle would create a 12.2 percent increase. The number of nurses would also face significant increase in demand from the Magic Circle project of 7-10 between the peak construction year of 1986 and full operations in 1988.

The demand for public health nurses would more than double from the existing 4 to 11 at peak construction and would reach 13 by full operations in 1988. Magic Circle's share from the direct impacts would require an additional public health nurse in Uintah County. To handle the cumulative impacts of Magic Circle and the interrelated projects the number of dentists in Uintah County would need to increase by seven at full operations in 1988. The direct project impacts would require an additional dentist in Duchesne and 2 in Uintah by 1988.

Although only a small increase in Emergency Medical Technicians (EMT's) will be required from the current 86 in the impact area to 90 at Magic Circle's full operations in 1988, a major redistribution from Duchesne to Uintah County will be needed. The Magic Circle project would directly stimulate demand for 2 EMT's in Duchesne County and 6 EMT's in Uintah County by full operations in 1988.



TABLE M-3

## MAGIC CIRCLE:

## HEALTH

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecast of Demands: Ambulances				
Baseline Demand	3.62	3.72	5.30	5.60
Magic Circle Impact	.25	.35	.58	.79
Interrelated Project Impact	.16	.42	.74	1.92
Cumulative Increase	.41	.77	1.32	2.71
Total Demand	4.03	4.49	6.61	8.30
Percent Increase	6.91	9.41	10.94	14.11
Cumulative Percent Increase	11.33	20.70	24.91	48.39
Forecast of Demands: EMT's				
Baseline Demand	25.34	26.07	37.10	39.20
Magic Circle Impact	1.78	2.44	4.04	5.51
Interrelated Project Impact	1.11	2.93	5.15	13.42
Cumulative Increase	2.89	5.47	9.19	18.93
Total Demand	28.22	31.44	46.29	58.13
Percent Increase	7.02	9.36	10.89	14.06
Cumulative Percent Increase	11.40	20.98	24.77	48.29
Forecast of Demands: Hospital beds				
Baseline Demand	36.20	37.24	53.00	56.00
Magic Circle Impact	2.54	3.49	5.77	7.87
Interrelated Project Impact	1.59	4.19	7.35	19.17
Cumulative Increase	4.13	7.68	13.12	27.04
Total Demand	40.33	44.92	66.12	83.04
Percent Increase	7.02	9.37	10.89	14.05
Cumulative Percent Increase	11.41	20.62	24.75	48.29
Forecast of Demands: Dentists				
Baseline Demand	9.05	9.31	13.25	14.00
Magic Circle Impact	.63	.87	1.44	1.97
Interrelated Project Impacts	.39	1.05	1.84	4.81
Cumulative Increase	1.02	1.92	3.28	6.78
Total Demand	10.08	11.23	16.53	20.76
Percent Increase	6.96	9.34	10.87	14.07
Cumulative Percent Increase	11.27	20.62	24.75	48.34

TABLE M-4

## MAGIC CIRCLE:

## HEALTH

Duchesne and Uintah Counties

	<u>1986</u>	<u>1988</u>
Forecast of Demands: Medical Doctors		
Baseline Demand	24.78	25.90
Magic Circle Impact	2.31	3.16
Interrelated Project Impact	2.48	6.49
Cumulative Increase	4.79	9.65
Total Demand	29.57	35.55
Percent Increase	9.32	12.20
Cumulative Percent Increase	19.33	37.26
Forecast of Demands: Nurses		
Baseline Demand	74.33	77.70
Magic Circle Impact	6.92	9.47
Interrelated Project Impact	7.45	19.46
Cumulative Increase	14.37	28.93
Total Demand	88.70	106.64
Percent Increase	9.31	12.19
Cumulative Percent Increase	19.33	37.23
Forecast of Demands: Public Health Nurses		
Baseline demand	8.92	9.32
Magic Circle Impact	.83	1.14
Interrelated Project Impact	.89	2.34
Cumulative Increase	1.72	3.48
Total Demand	10.64	12.80
Percent Increase	9.30	12.23
Cumulative Percent Increase	11.21	37.34

## Mental Health

One additional social worker may be required at full operation in 1988 to handle Magic Circle's direct population impact for the joint mental health service area, which includes Uintah and Duchesne Counties (See Table M-5). Interrelated projects would add a demand for two additional social workers. This represents a 12 percent direct growth over baseline from the project. If Magic Circle is viewed with the projected interrelated projects, the growth over baseline would grow 37 percent. This cumulative increase would also stimulate demand for one additional clinical psychologist/psychiatrist in the two county service area.

TABLE M-5

MAGIC CIRCLE:  
MENTAL HEALTH

	<u>Duchesne and Uintah Counties</u>	
	<u>1986</u>	<u>1988</u>
Forecast of Demands: Mental Health/Social Workers		
Baseline Demand	8.92	9.32
Magic Circle Impact	.83	1.14
Interrelated Project Impact	.89	2.34
Cumulative Increase	1.72	3.48
Total Demand	10.64	12.80
Percent Increase	9.32	12.12
Cumulative Percent Increase	19.28	37.34
Forecast of Demands: Clinical Psychologists		
Baseline Demand	2.23	2.33
Magic Circle Impact	.21	.28
Interrelated Project Impact	.22	.58
Cumulative Increase	.43	.86
Total Demand	2.66	3.20
Percent Increase	9.42	12.02
Cumulative Percent Increase	19.28	36.91

## Law Enforcement

The number of police officers necessary in Duchesne County area would rise to 24 under baseline growth assumptions in 1988. One additional officer could be necessary to handle the Magic Circle and interrelated projects. Table M-6 delineates the number of officers and patrol cars necessary under the various scenarios. The impact of Magic Circle directly could increase demand by 1.68 percent. The cumulative increase of Magic Circle and interrelated projects could raise the percent increase to 6.5 percent or 2 additional officers.

Uintah County would need 33 police officers under the baseline and 17 more from Magic Circle and the interrelated projects. Magic Circle's direct project impacts could bring an 11.9 percent growth over baseline.

TABLE M-6

MAGIC CIRCLE:  
LAW ENFORCEMENT

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Officers				
Baseline Demand	23.52	23.77	32.03	33.39
Magic Circle Impact	0.95	0.40	2.91	3.97
Interrelated Project Impact	0.47	1.16	4.81	13.16
Cumulative Increase	1.42	1.56	7.72	17.13
Total Demand	24.94	25.33	39.75	50.52
Percent Increase	4.04	1.68	9.09	11.89
Cumulative Percent Increase	6.04	6.56	24.10	51.30
Forecasts of Demand: Patrol Cars				
Baseline Demand	5.88	5.94	8.01	8.35
Magic Circle Impact	0.24	0.10	0.73	0.99
Interrelated Project Impact	0.12	0.29	1.20	3.29
Cumulative Increase	0.36	0.39	1.93	4.28
Total Demand	6.24	6.33	9.94	12.63
Percent Increase	4.08	1.68	9.11	11.86
Cumulative Percent Increase	17.01	6.57	24.09	51.26

## Libraries

According to state guidelines, Uintah and Duchesne counties have significant shortages of library books at the current time. Uintah County Library would need to grow from its existing 25,209 books to 56,004 books under baseline growth forecasts for 1988. The Duchesne library at Roosevelt would have to increase the number of its books from 250 to 37,240 at the same time. Magic Circle's direct impact would bring a demand for 7,874 additional books at the Vernal County Library at full operations. The same scenario would raise the demand at the Roosevelt library by 3,490 books. Substantial additional library space would also be required as delineated in Table M-7.

TABLE M-7

MAGIC CIRCLE:  
LIBRARIES

	<u>Books</u>		<u>Space</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
<u>Uintah County</u>				
Baseline Demand	53,000	56,004	13,250	14,001
Magic Circle Impact	5,772	7,874	1,443	1,969
Interrelated Project Impact	7,350	19,166	1,838	4,792
Cumulative Increase	13,122	27,040	3,281	6,761
Total Demand	66,122	83,044	16,531	20,762
Percent Increase	10.89	14.06	10.89	14.06
Cumulative Percent Increase	24.76	48.28	24.76	48.29
<u>Duchesne County</u>				
Baseline Demand	36,196	37,240	9,049	9,310
Magic Circle Impact	2,536	3,490	634	872.5
Interrelated Project Impact	1,586	4,188	396.5	1,047
Cumulative Increase	4,122	7,678	1,030.5	1,919.5
Total Demand	40,318	44,918	10,080	11,230
Percent Increase	7.01	9.37	7.01	9.37
Cumulative Percent Increase	11.39	20.62	11.39	20.62



## Parks

In Vernal the demand for community park facilities would see an 18 percent growth in demand from Magic Circle's direct impacts. Added with the projected interrelated projects a 46 percent growth in demand would occur. This will represent 11 acres from the project and 17 acres from interrelated projects. The communities' current excess capacity of 87.5 acres would need to grow to 91 acres. Roosevelt would see a 17 percent growth in demand from the project alone but, viewed with the interrelated projects, this would grow to a 41 percent increase in demand. A required 14 acres of additional park space would be needed over the existing acreage.

Ballard would have the need of one additional acre of park space as a result of the cumulative impact of Magic Circle and interrelated projects. Myton, under this scenario, would have demand increase by  $\frac{3}{4}$  of an acre.

TABLE M-8

MAGIC CIRCLE:  
 PARKS  
 (Neighborhood)

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand - Parks (Acres)				
Baseline Demand	58.03	62.49	33.60	35.75
Magic Circle Impact	8.33	11.35	4.52	6.25
Interrelated Project Impact	7.37	17.38	3.19	8.47
Cumulative Increase	15.70	28.73	7.71	14.72
Total Demand	73.73	91.22	41.37	50.47
Percent Increase	14.35	18.16	13.45	17.48
Cumulative Percent Increase	27.05	45.98	22.95	41.17

	<u>Ballard</u>		<u>Myton</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand - Parks (Acres)				
Baseline Demand	4.90	5.36	4.38	4.66
Magic Circle Impact	0.26	0.63	0.66	0.43
Interrelated Project Impact	0.26	0.37	0.23	0.31
Cumulative Increase	0.52	1.00	0.89	0.74
Total Demand	5.42	6.36	4.77	5.40
Percent Increase	5.31	11.75	15.07	9.23
Cumulative Percent Increase	10.61	18.66	20.32	15.88

## Sewer

Baseline growth is projected to increase sewer demand to 77,600 waste flow gallons per day in Myton by 1988 (see Table M-9). The additional 5,200 waste flow gallons that Magic Circle would add at full operations in 1988 would increase demand 6.7 percent over baseline projections. The Magic Circle cumulative scenario with its potential demand of 89,900 wasteflow gallons per day would be absorbed within the existing sewer system. Roosevelt should also be able to absorb in its sewer system the 841,100 waste flow gallons per day from the Magic Circle project cumulative impact at full operations.

Completions of current sewer system expansion in Vernal will be necessary to absorb baseline growth forecasts of 1,041,500 waste flow gallons per day in 1988. The additional 189,100 waste flow gallons per day from the Magic Circle project represents an 8.2 percent growth over baseline. The Magic Circle cumulative impact scenario would raise demand to 1,520,300 waste flow gallons per day in 1988.

TABLE M-9

MAGIC CIRCLE:  
SEWER

	<u>Myton</u>		<u>Roosevelt</u>		<u>Vernal</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecast of Demands: Waste (Gallons of Waste Water)						
Baseline Demand	73,000	77,600	561,000	595,900	967,100	1,041,500
Magic Circle Demand	3,800	5,200	75,300	104,100	138,800	189,100
Interrelated Proj Imp	2,700	7,100	53,200	141,100	122,900	289,700
Cumulative Increase	6,500	12,300	128,500	245,200	261,700	478,800
Total Demand	79,500	89,900	689,500	841,100	1,228,800	1,520,300
Percent Increase	5.21	6.7	3.42	7.47	4.35	8.16
Cumulative Percent Inc	8.9	5.85	2.91	1.15	7.06	5.97

## Water

By 1988, demand for water connections for the community of Myton would grow to 217 under baseline growth forecasts. (See Tables M-10, a through e). Magic Circle, at full operations, would increase that demand by 1 connection. Roosevelt, which could face a demand for 1,748 water connections under baseline growth, has ample room within the current capacity of its new sewer system. In fact, the 377 connections that the Magic Circle and interrelated projects cumulative impacts scenario could demand, would easily be absorbed in the existing water system.

Ballard, which could grow to require 232 connections under baseline growth and the 18 connections under the cumulative Magic Circle scenario, could be absorbed in the current water system. Vernal, however, already strains its current water system. The completion of the proposed expansion of the Vernal water system will be required to absorb even baseline growth projections of 3,393 connections. Magic Circle would add demand for 556 connections, a 16 percent growth over baseline.

TABLE M-10a

## MAGIC CIRCLE:

## WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Connections (GPCD)				
Baseline Demand	3,192	3,393	1,670	1,748
Magic Circle Demand	408	556	221	306
Interrelated Project Imp	410	1,411	177	71
Cumulative Increase	818	1,967	398	377
Total Demand	4,010	5,360	2,068	2,125
Percent Increase	13	16	13	18
Cumulative Percent Increase	26	58	24	22

	<u>Ballard</u>		<u>Myton</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Connections (GPCD)				
Baseline Demand	215	232	207	217
Magic Circle Demand	13	18	11	1
Interrelated Project Impact	14	0	9	15
Cumulative Increase	27	18	20	16
Total Demand	242	250	227	232
Percent Increase	6	8	5	.46
Cumulative Percent Increase	13	8	10	7.0

TABLE M-10b

MAGIC CIRCLE  
WATER

	<u>Vernal</u>		<u>Ballard</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demands: Water Rights (GPCD)				
Baseline Demand	2,553,600	2,714,400	172,000	185,600
Magic Circle Demand	326,400	444,800	10,400	14,400
Interrelated Proj Imp	32,800	1,128,800	11,200	0
Cumulative Increase	654,400	1,573,600	21,600	14,400
Total Demand	3,208,000	4,288,000	201,600	200,000
Percent Increase	13	16	6	8
Cumulative Percent Inc	26	58	13	8

	<u>Roosevelt</u>		<u>Myton</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Water Rights (GPCD)				
Baseline Demand	1,336,000	1,398,400	165,600	173,600
Magic Circle Demand	176,800	244,800	8,800	800
Interrelated Proj Imp	141,600	56,800	7,200	84,000
Cumulative Increase	318,400	301,600	16,000	84,800
Total Demand	16,384,000	1,700,000	181,600	258,400
Percent Increase	13	18	5	1
Cumulative Percent Inc	24	22	10	50

TABLE M-10c

MAGIC CIRCLE  
WATER

	<u>Vernal</u>		<u>Ballard</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demands: Source (GPCD)				
Baseline Demand	5,107,200	5,428,800	344,000	371,200
Magic Circle Demand	652,800	889,600	20,800	28,800
Interrelated Proj Imp	65,600	2,257,600	22,400	0
Cumulative Increase	1,308,800	3,147,200	43,200	28,800
Total Demand	6,416,000	857,600	403,200	400,000
Percent Increase	13	16	6	8
Cumulative Percent Inc	26	58	13	8

	<u>Roosevelt</u>		<u>Myton</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Source (GPCD)				
Baseline Demand	2,672,000	2,796,800	331,200	347,200
Magic Circle Demand	353,600	489,600	17,600	1,600
Interrelated Proj Imp	283,200	113,600	14,400	168,000
Cumulative Increase	636,800	603,200	32,000	169,600
Total Demand	32,768,000	3,400,000	363,200	516,800
Percent Increase	13	18	5	1
Cumulative Percent Inc	24	22	10	50



TABLE M-10d

MAGIC CIRCLE  
WATER

	<u>Vernal</u>		<u>Ballard</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demands: Storage (GPCD)				
Baseline Demand	2,553,600	2,714,400	172,000	185,600
Magic Circle Demand	326,400	444,800	10,400	14,400
Interrelated Proj Imp	32,800	1,128,800	11,200	0
Cumulative Increase	654,400	1,573,600	21,600	14,400
Total Demand	3,208,000	4,288,000	201,600	200,000
Percent Increase	13	16	6	8
Cumulative Percent Inc	26	58	13	8

	<u>Roosevelt</u>		<u>Myton</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Storage (GPCD)				
Baseline Demand	1,336,000	1,398,400	165,600	173,600
Magic Circle Demand	176,800	244,800	8,800	800
Interrelated Proj Imp	141,600	56,800	7,200	84,000
Cumulative Increase	318,400	301,600	16,000	84,800
Total Demand	1,638,400	1,700,000	181,600	258,400
Percent Increase	13	18	5	1
Cumulative Percent Inc	24	22	10	50

TABLE M-10e

MAGIC CIRCLE  
WATER

	<u>Vernal</u>		<u>Ballard</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demands: Supply (GPCD)				
Baseline Demand	5,207,200	5,428,000	344,000	371,200
Magic Circle Demand	652,800	889,600	20,800	28,800
Interrelated Proj Imp	65,600	2,257,600	22,400	0
Cumulative Increase	1,308,800	3,147,200	43,200	28,800
Total Demand	6,416,000	857,600	403,200	400,000
Percent Increase	13	16	6	8
Cumulative Percent In	26	58	13	8

	<u>Roosevelt</u>		<u>Myton</u>	
	<u>1986</u>	<u>1988</u>	<u>1986</u>	<u>1988</u>
Forecasts of Demand: Supply (GPCD)				
Baseline Demand	2,672,000	2,796,800	331,200	347,200
Magic Circle Demand	353,600	489,600	17,600	1,600
Interrelated Proj Imp	283,200	113,600	14,400	168,000
Cumulative Increase	636,800	603,200	32,000	169,600
Total Demand	32,768,000	3,400,000	363,200	516,800
Percent Increase	13	18	5	1
Cumulative Percent Inc	24	22	10	50

## Transportation

Table M2C-1 shows the traffic projections for Magic Circle project were made for 1986 and 1988. The largest impact will be on U.S. 40, from Route 88, to Vernal would reach a LOS of "D" and under the baseline it would maintain a level-of-service "C". However, only the northern portion of new road "C" would be required to accommodate the demand, however, no change in LOS is anticipated. Magic Circle is projected to have no impact on new roads A & D. All other roads in the network would continue to operate at a satisfactory level-of-service.

A comparison with baseline traffic projections shows a significant increase in traffic on S.R. 88. By 1988 traffic will have increased by more than 2,200 vehicles per day. Increases will also occur on that portion of U.S. 40 between Roosevelt and Vernal.

An aggressive ridesharing effort, would include buses and carpools, is being proposed by the company. A reduction in impact could be made on the network by a successful program.

An estimated average of 4 truck trips per day would transport construction equipment. The most likely routing would be from Vernal to S.R. 88 and south to the project site. Approximately 2 truck trips per day were estimated to transport sulfur. The shale oil would be piped from the project.

TABLE M2C-1

MAGIC CIRCLE  
TRAFFIC PROJECTIONS\*  
(Baseline Included)

BASLINE TRAFFIC PROJECTIONS\*

Highway Link	1986	1988	V/C 1986	LOS 1986	V/C 1988	LOS 1988	1986	1988	V/C 1985	LOS 1985	V/C 1993	LOS 1993
U.S. 40												
Co. Line to 264	7,416	7,680	.81	D	.83	D	5,573	5,839	.59	C	.71	D
264 to 88	4,679	5,123	.51	C	.56	C	3,789	3,963	.40	B	.48	C
88 to Vernal	5,794	6,510	.63	C	.71	D	4,045	4,229	.43	C	.51	C
Vernal to Jensen	5,562	5,852	.68	D	.72	D	5,485	5,754	.66	C	.80	D
Jensen to 45	2,482	2,622	.34	B	.36	B	2,405	2,524	.32	B	.39	B
45 to Utah/Colo	2,100	2,219	.29	B	.31	B	2,023	2,121	.27	B	.33	B
I-70												
SR 163 to Utah/Colo	4,383	4,833	.11	A	.12	A	4,383	4,833	.11	A	.16	A
SR 88												
U.S. 40 to SR 264	2,089	2,629	.32	B	.40	B	373	392	.06	A	.07	A
SR 264 to Ouray	2,145	2,688	.33	B	.41	C	429	451	.06	A	.08	A
New Road "C"	1,716	2,237	.16	A	.21	B	--	--	--	--	--	--
SR 45												
Northern	322	339	.05	A	.05	A	322	339	.05	A	.06	A
Southern	339	356	.05	A	.05	A	339	356	.05	A	.06	A
New Road "D"	--	--	--	--	--	--	--	--	--	--	--	--
Colo. 64												
Dinosaur to Rangely	4,252	4,478	.46	C	.49	C	4,175	4,380	.44	C	.54	C
New Road "A"												
Vernal to SR 45												

\* These numbers represent average annual daily traffic.

V/C indicates Volume to Capacity Ratio.

LOS indicates Level of Service.

CHAPTER P

PARAHO

## PARAHO

### Impact Projections

The Paraho project is designed to produce 42,000 bopd. It has a six-year construction phase with a construction camp in place for five of those years. The peak year for construction is 1985 during which time 2,075 people will be employed in construction (76 percent residing in a construction camp), with an additional 725 in operations as this phase begins. Operations employment will reach its maximum in 1987 at 1,100 employees with construction in its last year at 550 jobs. This construction employment tends to distort the operations impact for the study year, 1987.

At peak construction (1985) the population impact is significant for Uintah County. The total increase is projected at 16 percent; this represents a 10 percent population increase after discounting those workers in the construction camps. School-age population has a projected 545 additional people or an 8 percent change. The relative impacts will fall more heavily on Vernal which will experience a 14 percent growth.

At full operation employment (1987), the greatest impact will be in Vernal which will experience a 15 percent growth in population. For Uintah County the non-camp population increase will be 11 percent. The growth for Duchesne County will only be 3 percent and 7 percent for the city of Roosevelt.

As in the two previous cases, the addition of other project impacts will push total impacts much over the ten percent significant impact levels. Again, Uintah County will be the recipient of the greatest amount of growth; during construction the non-camp population will create an impact for the county of 4,084 people (16 percent change). This amount will nearly double during the project's operation peak. The growth in Vernal will increase by 20 percent (construction peak) and 33 percent (operation peak). A significant impact is expected for Roosevelt under this scenario, with population increases at 11 percent (1985) and 21 percent (1987). However, for Duchesne County that impact will still be less than 10 percent.

## Housing

The need for housing units in Uintah County would grow to 8,055 units by 1987 (see P-1). The total Paraho cumulative impact at full operations would raise the necessary number of housing units to 10,533. Paraho's direct share of the total housing unit is projected to reach 878 units in Uintah County at the same time. Vernal's share of the projected housing demand could reach 3,325 dwellings under baseline and 4,379 dwelling units under Paraho's full operations cumulative impact scenario.

Duchesne County could see a demand for 5,390 dwelling units by 1987 under baseline growth. A total of 1,709 of those units would be required in Roosevelt; whereas, Paraho's direct housing demand could be 180 dwelling units by 1987 in Duchesne County. The Paraho cumulative impact scenario at full operations in 1987 would raise the demand to 6,000 units in Duchesne County. Roosevelt's share of that growth could reach 2,106 dwelling units.

TABLE P-1

## PARAHO:

## HOUSING

	<u>Uintah County</u>		<u>Duchesne County</u>	
	1985	1987	1985	1987
Forecasts of Demand: Households				
Baseline Demand	7,706	8,055	5,323	5,390
Paraho Demand	774	878	185	180
Interrelated Project Impact	493	1,600	123	430
Cumulative Increase	1,267	2,478	308	610
Total Demand	8,973	10,533	5,531	6,000
Percent Increase	10	11	4	3
Cumulative Percent Increase	16	31	6	11
	<u>Vernal</u>		<u>Roosevelt</u>	
	1985	1987	1985	1987
Forecasts of Demand: Households				
Baseline Demand	3,087	3,325	1,622	1,709
Paraho Demand	379	431	109	107
Interrelated Project Impact	192	623	83	290
Cumulative Increase	571	1,054	192	397
Total Demand	3,658	4,379	1,814	2,106
Percent Increase	12	13	7	6
Cumulative Percent Increase	19	32	12	23



## Education

The Uintah County School District, which is already at 103 percent of capacity, can expect 582 additional students by 1987, as a direct result of the Paraho project. Interrelated projects would add 956 students for a cumulative increase of 21 percent over baseline growth forecasts. Paraho's share of this growth would be a 7.9 percent growth over baseline. These students would represent an increase demand for 23 additional classrooms and teachers in Uintah District from the Paraho Project alone at full operations in 1987. The Paraho direct project demand in Duchesne District would be smaller, with a potential projected increase of 120 students and five classrooms. This represents a 2.4 percent increase over baseline.

TABLE P-2

PARAHO:  
EDUCATION

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demand: Students				
Baseline Demand	4,764	4,917	6,818	7,361
Paraho Impact	130	120	545	582
Interrelated Project Impact	73	257	292	956
Cumulative Increase	203	357	837	1538
Total Demand	4,967	5,294	7,655	8,899
Percent Increase	2.73	2.44	7.99	7.91
Cumulative Percent Increase	4.26	7.26	12.28	20.89
Forecast of Demand: Classrooms				
Baseline Demand	190.56	196.68	272.72	294.44
Paraho Impact	5.20	4.80	21.80	23.28
Interrelated Project Impact	2.92	10.28	11.68	38.24
Cumulative Increase	8.12	15.08	33.48	61.52
Total Demand	198.68	211.76	306.20	355.96
Percent Increase	2.73	4.96	7.99	7.91
Cumulative Percent Increase	4.26	7.67	12.28	20.89
Forecast of Demand: Teachers				
Baseline Demand	190.56	196.68	272.72	294.44
Paraho Impact	5.20	4.80	21.80	23.28
Interrelated Project Impact	2.92	10.28	11.68	38.24
Cumulative Increase	8.12	15.08	33.48	61.42
Total Demand	198.68	211.76	306.20	355.96
Percent Increase	2.73	4.96	7.99	7.91
Cumulative Percent Increase	4.26	7.67	12.28	20.89

## Health

To adequately serve community residents, Duchesne County hospital will require four new beds by 1987 under baseline assumptions (see Table P-4). Eight new beds would be necessary if the Paraho cumulative impact scenario occurs. Ashley Valley Hospitals bed needs would grow to 55 beds under the baseline assumptions in 1987. An additional eighteen beds would be required under the Paraho cumulative impact scenario.

One additional ambulance under the baseline scenario and two additional ambulances under the Paraho cumulative impact scenario would be required by 1987 in Duchesne. Uintah would need two ambulances at the same time under baseline and four under the cumulative impact scenario. The demand for EMT's would grow by 16 under the cumulative impact scenario in 1987.

The number of physicians necessary to meet state service guidelines would reach 25 under baseline assumptions and 29 under Paraho's cumulative impact scenario, this is an additional 4 over the projected baseline demand (see Table P-3). To meet state service guidelines, the number of public health nurses would have to grow to 9 under the baseline and 11 under the cumulative impact scenario.

TABLE P-3

PARAHO:

HEALTH

Duchesne & Uintah Counties

	<u>1985</u>	<u>1987</u>
Forecast of Demands: Medical Doctors		
Baseline Demand	24.17	25.26
Paraho Impact	.13	.12
Interrelated Project Impact	.07	.26
Cumulative Increase	.20	.38
Total Demand	3.75	4.02
Percent Increase	.54	.48
Cumulative Percent Increase	.83	1.50
Forecast of Demands: Nurses		
Baseline Demand	72.51	75.80
Paraho Impact	5.44	6.00
Interrelated Project Impact	3.22	12.15
Cumulative Increase	8.66	18.15
Total Demand	81.27	93.95
Percent Increase	7.50	7.92
Cumulative Percent Increase	11.94	23.94
Forecast of Demands: Public Health Nurses		
Baseline Demand	8.70	9.10
Paraho Impact	.65	.72
Interrelated Project Impact	.40	1.46
Cumulative Increase	1.05	2.18
Total Demand	9.80	11.27
Percent Increase	7.47	7.91
Cumulative Percent Increase	12.07	23.96

TABLE P-4

## PARAHO:

## HEALTH

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demands: Ambulances				
Baseline Demand	3.57	3.64	5.15	5.46
Paraho Impact	.13	.12	.53	.60
Interrelated Project Impact	.07	.26	.33	1.20
Cumulative Increase	.20	.38	.86	1.80
Total Demand	3.75	4.02	6.00	7.23
Percent Increase	3.64	3.30	10.29	10.99
Cumulative Percent Increase	5.60	10.44	16.70	32.97
Forecast of Demands: EMT's				
Baseline Demand	24.90	25.44	36.02	38.23
Paraho Impact	.90	.86	3.70	4.20
Interrelated Project Impact	.51	1.81	2.30	8.40
Cumulative Increase	1.41	2.67	6.00	12.60
Total Demand	26.28	28.11	42.00	50.81
Percent Increase	3.61	3.38	10.27	10.99
Cumulative Percent Increase	5.66	10.50	16.66	32.96
Forecast of Demands: Dentists				
Baseline Demand	8.90	9.09	12.87	13.65
Paraho Impact	.32	.31	1.32	1.50
Interrelated Project Impact	.18	.65	.82	3.00
Cumulative Increase	.50	.96	2.14	4.50
Total Demand	9.39	10.04	15.00	18.15
Percent Increase	3.60	3.41	10.26	10.99
Cumulative Percent Increase	5.62	10.56	16.63	32.97
Forecast of Demands: Hospital Beds				
Baseline Demand	35.56	36.35	51.46	54.61
Paraho Impact	1.26	1.23	5.26	5.97
Interrelated Project Demand	.73	2.58	3.26	12.00
Cumulative Increase	1.99	3.81	8.52	17.97
Total Demand	37.55	40.16	59.98	72.58
Percent Increase	3.54	3.38	10.22	10.93
Cumulative Percent Increase	5.60	10.48	16.56	32.91

## Mental Health

The counties of Duchesne and Uintah receive mental health services from District VI Social Services. According to District VI staff, these services are already severely inadequate. Baseline growth (see Table P-5) would require almost a quadrupling of staff by 1987 from the existing 2.3 full time staff to a baseline demand for 9.1 mental health workers. Paraho could stimulate demand for almost one additional social worker at full operations in 1987. This represents a 7.69 percent growth over baseline. Interrelated projects could increase the need by 1.5 additional social workers. The combined impacts of Paraho and the interrelated projects would mean a 24 percent growth over baseline. The increase in demand for clinical psychologist/psychiatrists from the Paraho project would be minimal, although the cumulative need of Paraho and interrelated projects would require one more psychologist.

TABLE P-5

PARAHO:  
MENTAL HEALTH

	<u>Duchesne and Uintah Counties</u>	
	<u>1985</u>	<u>1987</u>
Forecast of Demands: Social Workers		
Baseline Demand	8.70	9.10
Paraho Demand	.65	.70
Interrelated Project Impact	.40	1.50
Cumulative Increase	1.05	2.20
Total Demand	9.75	11.30
Percent Increase	7.47	7.69
Cumulative Percent Increase	12.07	24.18
Forecast of Demands: Clinical Psychologists		
Baseline Demand	2.20	2.30
Paraho Impact	.20	.20
Interrelated Project Impact	.10	.40
Cumulative Increase	.30	.60
Total Demand	2.44	2.82
Percent Increase	2.50	2.90
Cumulative Percent Increase	13.64	26.09

## Law Enforcement

Baseline growth projections forecast a demand for 33 police officers in Uintah County by 1987 (see Table P-6). Interrelated projects would require an additional 8 officers in the same time period. Impact from the Paraho project represents 9.28 percent of this growth or 3 additional officers. One additional patrol car for Uintah County could also be required as a result of Paraho's direct project impacts.

Duchesne County could require one additional officer as a direct result of the Paraho project and 3 from interrelated projects. Baseline demand for law enforcement personnel in Duchesne would grow to 36 officers by 1987. Paraho, at full operations in 1987, would stimulate a demand for one additional officer while interrelated projects would increase demand for officers by three. This would result in a cumulative increase of 34 percent in Uintah County and 10.5 percent in Duchesne County.



TABLE P-6

PARAHO:  
LAW ENFORCEMENT

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demands: Officers				
Baseline Demand	35.60	36.35	31.33	32.75
Paraho Impact	1.30	1.23	2.70	3.04
Interrelated Project Impact	.73	2.60	2.10	8.13
Cumulative Increase	2.03	3.83	4.80	11.17
Total Demand	37.54	40.15	36.10	43.92
Percent Increase	3.65	3.38	8.62	9.28
Cumulative Percent Increase	5.70	10.54	15.32	34.11
Forecast of Demands: Patrol Cars				
Baseline Demand	9.00	9.10	7.83	8.20
Paraho Impact	.32	.31	.67	.76
Paraho Project Impact	.18	.65	.52	2.03
Cumulative Increase	.50	.95	1.19	2.79
Total Demand	9.50	10.05	9.02	10.99
Percent Increase	3.56	3.41	8.56	9.27
Cumulative Percent Increase	5.56	10.44	15.20	34.02

## Parks

The increase in demand for 9 acres of park land from the Paraho Project in 1987 should be able to be absorbed within current capacity in Vernal (see Table P-7). The projected demand from the interrelated projects for one acre could also be absorbed in Vernal's current capacity. As a result of the Paraho project, Roosevelt would require one additional acre of park by 1987 to adequately serve community residents. Five acres would also be required for the interrelated projects that would occur in the same time period.

TABLE P-7

PARAHO:  
PARKS (Neighborhood)

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecasts of Demand - Parks (Acres)				
Baseline Demand	55.70	60.44	32.50	34.55
Paraho Impact	7.73	8.79	2.22	1.09
Interrelated Project Impact	3.39	1.21	1.46	5.22
Cumulative Increase	11.12	10.00	3.68	6.31
Total Demand	66.82	70.44	36.18	40.86
Percent Increase	13.88	14.54	6.83	3.15
Cumulative Percent Increase	19.96	16.55	11.32	18.26

## Libraries

The Uintah County library under baseline growth forecasts would need to grow from the existing 25,206 books to 54,614 books by 1987 to meet state guidelines for services. Paraho could increase that demand by 5,968 books, a 10.9 percent growth over baseline demand. The cumulative impact scenario would raise the number of books necessary to adequately serve Uintah County by 7,783 books over baseline. Table P-8 delineates the square footage of library floor space that could be required to accommodate the growing library demand.

The number of books in the Roosevelt library would need to grow from the existing 250 to 36,346 by 1987 to meet state guidelines for service. Paraho would cause an additional demand for 1,226 at that same time. Interrelated projects would require an additional 2,580 books the year Paraho is forecast to be at full operation.

TABLE P-8

PARAHO:

LIBRARIES

	<u>Books</u>		<u>Space</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
<u>Uintah County</u>				
Baseline Demand	51,916	54,614	12,865	13,654
Paraho Impact	5,262	5,968	1,316	1,492
Interrelated Project Imp	2,906	1,815	815.5	3,000
Cumulative Increase	8,168	7,783	2,131.5	4,492
Total Demand	59,584	62,397	14,996	18,146
Percent Increase	10.14	10.93	10.23	10.93
Cumulative Percent Inc	15.73	14.25	16.57	32.90
<u>Duchesne County</u>				
Baseline Demand	35,556	36,346	8,889	9,087
Paraho Impact	1,260	1,226	315	306.5
Interrelated Project Imp	726	2,580	181.5	645
Cumulative Increase	1,986	3,806	496.5	951.5
Total Demand	37,542	40,149	9,386	10,038
Percent Increase	3.54	3.37	3.54	3.37
Cumulative Percent Inc	5.53	10.47	5.59	10.47

## Sewer

Waste flow gallons are projected to increase to 575,900 gallons per day (GPD) in Roosevelt and 1,007,400 GPD in Vernal by 1987 under baseline growth (see Table P-9). The Paraho project would stimulate an additional 36,400 GPD and 146,500 GPD respectively in Roosevelt and Vernal. This represents a 6.3 percent growth in Roosevelt and a 14.5 percent growth in sewer demand in Vernal over baseline projections in 1987, the year Paraho reaches full operations. The current sewer expansion in the Vernal area will be necessary to absorb the projected growth in that area under the high development scenario. A total sewer capacity of 1.3 mgd in Vernal would be necessary to serve the projected city population in 1987 from the total Paraho demand scenario.

TABLE P-9

PARAHO:

SEWER

	<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>
Forecast of Demands: Waste Flow Gallons		
Baseline Demand	541,600	575,900
Paraho Demand	37,000	36,400
Interrelated Project Impact	24,400	81,000
Cumulative Increase	61,400	117,400
Total Demand	603,000	699,300
Percent Increase	6.83	6.32
Cumulative Percent Increase	11.34	20.39

	<u>Vernal</u>	
	<u>1985</u>	<u>1987</u>
Forecast of Demand: Waste Flow Gallons		
Baseline Demand	929,100	1,007,400
Paraho Demand	128,900	146,500
Interrelated Project Impact	56,500	186,800
Cumulative Increase	185,400	333,300
Total Demand	1,114,500	1,340,700
Percent Increase	13.87	14.54
Cumulative Percent Increase	19.95	33.09

## Water

Plans to expand the water system in the Vernal area are well underway. The current system, which draws from the Ashley Springs to serve much of the Ashley Valley area, is currently exceeding its capacity. The system, which is capable of serving 10,400, is presently utilized by approximately 16,000 people. Baseline growth for Vernal City alone forecasts a need for 3,326 connections by 1987. Paraho water needs represent a 13 percent growth over baseline demand in Vernal.

Table P-10 delineates projected demand for connections, water rights, well production, storage and supply under both baseline and Paraho development scenarios.

Roosevelt could grow from its existing 1,200 connections to 1,709 connections in 1987 under baseline growth. Paraho water needs represent a 6 percent growth over baseline demand.



TABLE P-10a

PARAHO:  
WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demand - Connections				
Baseline Demand	3,087	3,325	1,622	1,709
Paraho Demand	379	431	109	107
Interrelated Project Impact	192	623	83	290
Cumulative Increase	571	1,054	192	397
Total Demand	3,658	4,379	1,814	2,106
Percent Increase	12	13	7	6
Cumulative Percent Increase	19	32	12	23

TABLE P-10b

PARAHO:

WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demand - Water Rights (GPCD)				
Baseline Demand	2,469,600	2,660,000	1,297,600	1,367,200
Paraho Demand	303,200	344,800	87,200	85,600
Interrelated Project Impact	153,600	498,400	66,400	232,000
Cumulative Increase	456,800	843,200	153,600	317,600
Total Demand	2,926,400	3,503,200	1,451,200	1,684,800
Percent Increase	12	13	7	6
Cumulative Percent Increase	19	32	12	23

TABLE P-10c

PARAHO:

WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demands - Source (GPCD)				
Baseline Demand	4,939,200	5,320,000	2,595,200	2,734,400
Paraho Demand	606,400	689,600	174,400	171,200
Interrelated Project Impact	307,200	996,800	132,800	464,000
Cumulative Increase	913,600	1,686,400	307,200	635,200
Total Demand	5,852,800	7,006,400	2,902,400	3,369,600
Percent Increase	12	13	7	6
Cumulative Percent Increase	19	32	12	23

TABLE P-10d

PARAHO:

WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demand - Storage (GPCD)				
Baseline Demand	2,469,600	2,660,000	1,297,600	1,367,200
Paraho Demand	303,200	344,800	87,200	85,600
Interrelated Project Impact	153,600	498,400	66,400	232,000
Cumulative Increase	456,800	843,200	153,600	317,600
Total Demand	2,926,400	3,503,200	1,451,200	1,684,800
Percent Increase	12	13	7	6
Cumulative Percent Increase	19	32	12	23

TABLE P-10e

PARAHO:

WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecast of Demands - Supply (GPCD)				
Baseline Demand	4,939,200	5,320,000	2,595,200	2,734,400
Paraho Demand	606,400	689,600	174,400	171,200
Interrelated Project Impact	307,200	996,800	132,800	464,000
Cumulative Increase	913,600	1,686,400	307,200	635,200
Total Demand	5,852,800	7,006,400	2,902,400	3,369,600
Percent Increase	12	13	7	6
Cumulative Percent Increase	19	32	12	23

## Transportation

Paraho, in the peak year, will generate approximately 1,500 additional work trips will be generated by Paraho in the peak year. The majority of this traffic in 1985 and 1987 will be destined for Vernal City. All roads in the network, except portions of U.S. 40 would be operating at an acceptable level-of-service. There would be no impact on new road "C".

The largest increase, when compared to baseline traffic, will occur on U.S. 40 between Roosevelt and Vernal. New road "A" is proposed to carry most of the traffic generated by employment and other activities at Paraho. By 1985, U.S. 40 will experience some reduction in level-of-service over the baseline forecasts. (C to D from the county line to route 264 and B to C from route 264 to route 88.)

The estimated number of truck trips per day and their destination is shown below.\*

	TRUCKS/DAY	SLC	DESTINATION	
			VERNAL	EAST
Construction	29	6	14	9
Operations	20	10	6	4

This represent approximately 3 percent of all the vehicle trips on new road "A". The materials to be transported by truck include ammonia and sulfur.

Some bulky equipment would need to be shipped by rail. The closest railheads of Mack, Craig or Salt Lake City would be used, depending on the origin of the equipment. The remaining trip would need to be made by truck.

---

\* Source: Debra C. O'Connor, Manager of Corporate/Public Affairs, Paraho Development Corporation.

TABLE P2C-1

 PARAHO  
 TRAFFIC PROJECTIONS\*  
 (Baseline Included)

## BASELINE TRAFFIC PROJECTIONS\*

Highway Link			V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS
	1985	1987	1985		1987		1985	1987	1985		1993	
U.S. 40												
Co. Line to 264	6,956	6,930	.76	D	.75	D	5,440	5,706	.59	C	.71	D
264 to 88	4,133	4,282	.45	C	.47	C	3,706	3,875	.40	B	.48	C
88 to Vernal	4,382	4,543	.48	C	.49	C	3,955	4,136	.43	C	.51	C
Vernal to Jensen	5,421	5,685	.66	C	.70	D	5,356	5,618	.66	C	.80	D
Jensen to 45	2,413	2,531	.33	B	.35	B	2,348	2,464	.32	B	.39	B
45 to Utah/Colo	2,161	2,263	.30	B	.31	B	1,975	2,071	.27	B	.33	B
I-70												
SR 163 to Utah/Colo	4,175	4,603	.11	A	.12	A	4,175	4,603	.11	A	.16	A
SR 88												
U.S. 40 to SR 264	364	382	.06	A	.06	A	364	382	.06	A	.07	A
SR 264 to Ouray	419	440	.06	A	.07	A	419	440	.06	A	.08	A
New Road "C"	--	--	--	--	--	--	--	--	--	--	--	--
SR 45												
Northern	436	456	.07	A	.07	A	315	331	.05	A	.06	A
Southern	452	472	.07	A	.07	A	331	347	.05	A	.06	A
New Road "D"	--	--	--	--	--	--	--	--	--	--	--	--
Colo. 64												
Dinosaur to Rangely	4,263	4,468	.46	C	.48	C	4,077	4,276	.44	C	.54	C
New Road "A"												
Vernal to SR 45	1,329	1,413	.14	A	.15	A	--	--	--	--	--	--

\* These numbers represent average annual daily traffic.  
 V/C indicates Volume to Capacity Ratio.  
 LOS indicates Level of Service.

SECTION S

SYNTANA



## Impact Projections

The Syntana project has the highest targeted level of output (57,000 bopd) of the projects studied. The construction employment schedule will be atypical; it will be twice as long as the interrelated projects' schedules and will have three peak levels with the first and highest in 1985 at 1,525 jobs. This peak will be followed by a decline in employment and then another peak in 1989, and similarly a third peak in 1992; both will reach a level of employment of 1,350. A construction camp will exist through the entire construction phase. Employment in the operations phase will begin in 1985 and will build to a peak of 2,100 jobs in 1995.

In 1985 Uintah County will absorb 82 percent of the total population impact; however, for the population locating in communities; i.e., not living in construction camps, the growth will represent only a 6 percent increase to the baseline population. The impact for Duchesne County and for the communities in both counties will be less than a 10 percent change in population. The design of construction camps to help alleviate the impacts during the construction phase will be reflected in the differences in the magnitude of the impacts at peak construction as compared to the full operations level.

The operations phase significantly will change both the demographic and economic structure of Uintah County. Population will increase by 25 percent which will result in a total population of about 36,300 as compared with the baseline projection of 29,700. The number of households will increase by about 1,200 and the school-age population by over 700. The total employment impact generated by the Syntana project will be higher than any of the other site specific projects. The demand for labor would increase by 30 percent which will mean an additional 3,200 jobs. Both Vernal and Roosevelt will experience population growth in excess of 10 percent; however, the impact for Vernal will be over four-and-half times as large as the total impact on Roosevelt. The impacts in Ballard and Myton will not be significant.

The scenario with development of Syntana plus interrelated projects will generate a 17 percent increase in population in Uintah County and a 15 percent increase in Vernal in 1985. However, by 1995 the projected impacts will dramatically increase to a growth of over 60 percent in the county and nearly 70 percent in Vernal. In Duchesne County, the population impacts will create an increase of over 3,600 people (20 percent growth) of which about 66 percent will be located in Roosevelt.

## Housing

The baseline forecast for housing demand shows a potential need for 8,581 dwelling units by 1995 in Vernal (Table S-1). Vernal would need to provide 3,620 of those units. Syntana would require 1,893 housing units in Uintah County by 1995; Vernal's share of that demand is projected to be 933 dwelling units. The cumulative impacts of Syntana at full operation and interrelated projects would raise that demand by 5,312 dwelling units in Uintah County and 2,280 units in Vernal.

Duchesne County would have a baseline demand of 5,369 dwelling units by 1995, with Roosevelt providing 1,709 of those dwelling units. Syntana could require 331 housing units in Duchesne County by 1995 and 197 units in Roosevelt.

In the same year, when Syntana is projected to reach full operations, the cumulative impacts of that project and other proposed developments would raise the demand for dwelling units to 6,438 in Duchesne County. Roosevelt might be expected to provide 2,414 of those dwelling units.

TABLE S-1

SYNTANA:  
HOUSING

	<u>Uintah County</u>		<u>Duchesne County</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demands: Households				
Baseline Demand	7,706	8,581	5,323	5,369
Syntana Demand	484	1,893	124	331
Interrelated Project Imp	493	3,419	123	738
Cumulative Increase	977	5,312	247	1,069
Total Demand	8,683	13,893	5,570	6,438
Percent Increase	6.2	22.1	2.3	6.2
Cumulative Percent Increase	12.7	61.9	4.6	19.9

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demands: Households				
Baseline Demand	3,087	3,620	1,622	1,709
Syntana Demand	237	933	73	197
Interrelated Project Impact	192	1,347	83	508
Cumulative Increase	429	2,280	156	705
Total Demand	3,516	5,900	1,778	2,414
Percent Increase	7.7	25.8	4.5	11.5
Cumulative Percent Increase	13.9	62.9	9.6	41.2

## Education

The largest share of impacts on the education system from the Syntana project will be felt at full operations in 1995 in Uintah County, shown on Table S-2. The Syntana project would add an additional 1,763 students into the Uintah district at that time. This represents a 19 percent growth over baseline. An additional 71 classrooms and teachers would be required to take care of this demand.

Duchesne School District would need an additional 308 students as a direct result of the Syntana project in 1995. This represents a 5.36 percent growth over baseline, with an accompanying demand for 12 additional teachers and classrooms.

TABLE S-2

SYNTANA:  
EDUCATION

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demands: Students				
Baseline Demand	4,764	5,747	6,818	9,186
Syntana Impact	87	308	388	1,763
Interrelated Project Impact	73	649	292	3,006
Cumulative Increase	160	957	680	4,769
Total Demand	4,924	6,704	7,498	13,955
Percent Increase	1.83	5.36	5.69	19.19
Cumulative Percent Increase	3.36	16.65	9.97	51.92
Forecast of Demands: Classrooms				
Baseline Demand	190.56	229.88	272.72	367.44
Syntana Impact	3.48	12.32	15.52	70.52
Interrelated Project Impact	2.92	25.96	11.68	120.24
Cumulative Increase	6.40	38.28	27.20	190.76
Total Demand	196.96	268.16	299.92	558.20
Percent Increase	1.83	5.36	5.69	19.19
Cumulative Percent Increase	3.36	16.65	9.97	51.91
Forecast of Demands: Teachers				
Baseline Demand	190.56	229.88	272.72	367.44
Syntana Impact	3.48	12.32	15.52	70.52
Interrelated Project Impact	2.92	25.96	11.68	120.24
Cumulative Increase	6.41	38.28	27.20	27.20
Total Demand	196.96	268.16	299.92	558.20
Percent Increase	1.83	5.36	5.69	19.19
Cumulative Percent Increase	3.36	16.00	9.97	51.92

## Health

According to state service guidelines, Duchesne County hospital will need five new beds to meet projected demand in 1995 from baseline growth (see Table S-4). This demand would grow by 7 new beds under the cumulative impacts of Syntana and interrelated projects. In Uintah County, Ashley Valley hospital would have a bed demand of 60 beds under baseline growth assumptions in 1995. The Syntana and interrelated projects impacts at full operation could raise that to 96 beds. Syntana's direct share of that demand would bring a 21.5 percent growth over baseline.

One additional ambulance would be needed under the 1995 baseline forecast. Syntana and interrelated projects would require one new ambulance over the existing three ambulances in Duchesne County. Uintah County would need to double their existing supply of 3 ambulances under the baseline scenario, and more than triple it to 10 ambulances adding Syntana and interrelated projects at full operations. The number of EMT's necessary under that scenario could grow to 26. Three additional dentists under the baseline and two from the interrelated projects and Syntana would be necessary to adequately serve demand in Duchesne County. Uintah County would have a demand for 15 dentists under the baseline the same year. The three dentists that Syntana's direct growth would require is a 21.6 percent growth over baseline. The cumulative demand for dentists in Uintah County would grow by 9 from Syntana and the interrelated projects by 1995. The number of doctors (see Table S-3) necessary to adequately serve the area would grow to 27 by 1995 under baseline growth assumptions. Twelve additional physicians would be necessary from the cumulative impacts of Syntana and interrelated projects by 1995.

Baseline demand for nurses could reach 81 by 1995 in the two county area of Duchesne and Uintah. The cumulative impact scenario would raise this by another 37 nurses by the same year. The number of Public Health nurses necessary to adequately meet community needs would reach 10 PHN's by 1995 under baseline growth. Four more would be necessary from the cumulative impacts of Syntana and interrelated projects which represents a 45 percent increase over baseline projections.

TABLE S-3

## SYNTANA:

## HEALTH

	<u>Duchesne and Uintah Counties</u>	
	<u>1985</u>	<u>1995</u>
Forecast of Demands: Medical Doctors		
Baseline Demand	24.17	26.97
Syntana Impact	1.15	4.20
Interrelated Project Impact	1.01	8.00
Cumulative Increase	2.16	12.20
Total Demand	26.33	39.16
Percent Increase	4.76	15.57
Cumulative Percent Increase	8.94	45.24
Forecast of Demands: Nurses		
Baseline Demand	72.51	80.91
Syntana Impact	3.45	12.60
Interrelated Project Impact	3.03	23.97
Cumulative Increase	6.48	36.57
Total Demand	79.00	117.48
Percent Increase	4.76	15.57
Cumulative Percent Increase	8.94	45.20
Forecast of Demands: Public Health Nurses		
Baseline Demand	8.71	9.71
Syntana Impact	.41	1.51
Interrelated Project Impact	.36	2.88
Cumulative Increase	.77	4.39
Total Demand	9.48	14.10
Percent Increase	4.71	15.55
Cumulative Percent Increase	8.84	45.21



TABLE S-4

SYNTANA:  
HEALTH

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demands: Ambulances				
Baseline Demand	3.57	3.74	5.15	5.97
Syntana Demand	.08	.23	.33	1.29
Interrelated Project Impact	.07	.51	.29	2.37
Cumulative Increase	.15	.74	.62	4.66
Total Demand	3.71	4.47	5.77	9.63
Percent Increase	2.24	6.15	6.41	21.61
Cumulative Percent Increase	4.20	19.79	12.04	78.06
Forecast of Demands: EMT's				
Baseline Demand	24.89	26.16	36.02	41.81
Syntana Impact	.60	1.58	2.31	9.01
Interrelated Project Impact	.51	3.58	2.03	16.56
Cumulative Increase	1.11	5.16	4.34	25.57
Total Demand	25.99	31.31	40.36	67.38
Percent Increase	2.41	6.04	6.41	21.55
Cumulative Percent Increase	4.46	19.72	12.05	61.16
Forecast of Demands: Dentists				
Baseline Demand	8.89	9.34	12.87	14.93
Syntana Impact	.21	.56	.82	3.22
Interrelated Project Impact	.18	1.28	.73	5.92
Cumulative Increase	.39	1.84	1.55	9.14
Total Demand	9.28	11.18	14.42	24.06
Percent Increase	2.36	6.00	6.37	21.57
Cumulative Percent Increase	4.39	19.70	12.04	61.22
Forecast of Demands: Hospital Beds				
Baseline Demand	35.56	37.37	51.46	59.73
Syntana Impact	.85	2.25	3.29	12.87
Interrelated Project Impact	.73	5.11	2.91	23.66
Cumulative Increase	1.58	7.36	6.20	36.53
Total Demand	37.14	44.73	57.66	96.26
Percent Increase	2.39	6.02	6.39	21.55
Cumulative Percent Increase	4.44	16.69	12.05	61.16

## Mental Health

Mental health services are already in short supply within the study area. The equivalent of 2.3 staff from District VI Social Services provides only crisis intervention services because of their limited staff. Fourteen social workers would be required by 1995 from Syntana and interrelated projects in the area (see Table S-5). Syntana's direct impact would stimulate the need for one and a half social workers or a 15.6 percent growth over baseline. A third of the time of a clinical psychologist or psychiatrist would also be required to handle Syntana's direct impacts. This 15.64% growth over baseline would expand to 45.27 percent if interrelated projects are also considered.

TABLE S-5

SYNTANA:  
MENTAL HEALTH

	<u>Duchesne and Uintah Counties</u>	
	<u>1985</u>	<u>1995</u>
Forecast of Demands: Social Workers		
Baseline Demand	8.70	9.71
Syntana Demand	.41	1.51
Interrelated Project Impact	.36	2.88
Cumulative Increase	.77	4.39
Total Demand	9.47	14.10
Percent Increase	4.71	15.55
Cumulative Percent Increase	8.85	45.21
Forecast of Demands: Clinical Psychologists		
Baseline Demand	2.18	2.43
Syntana Impact	.10	.38
Interrelated Project Impact	.09	.72
Cumulative Increase	.19	1.10
Total Demand	2.37	3.53
Percent Increase	4.59	15.64
Cumulative Percent Increase	8.72	45.27

## Law Enforcement

Baseline forecasts for law enforcement personnel by 1995 show the need for substantial increase in police officers within Uintah and Duchesne counties (see Table S-6). Duchesne County would need 24 officers while Uintah could require 35 officers. Syntana would stimulate increased demand for one officer in Duchesne County and for 6.5 officers in Uintah County. This will represent a 3.8 percent increase in Duchesne and a 18.6 percent increase in Uintah over baseline demand. The cumulative impacts of Syntana and interrelated projects would increase the need by 2 officers in Duchesne County and 21 officers in Uintah County by 1995, the year of full operations. One or two additional patrol cars may be necessary in Uintah County as a direct result of the Syntana project (see Table S-8). When viewed with the proposed interrelated projects, this would raise the demand by 5 patrol cars or a 59 percent increase over baseline.

TABLE S-6

SYNTANA:  
LAW ENFORCEMENT

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demands: Officers				
Baseline Demand	23.31	23.95	31.33	35.04
Syntana Impact	.35	.91	1.68	6.53
Interrelated Project Impact	.21	1.42	.74	14.16
Cumulative Increase	.56	2.33	3.42	20.69
Total Demand	23.87	26.28	34.75	55.73
Percent Increase	1.50	3.80	5.36	18.64
Cumulative Percent Increase	2.40	9.73	10.92	59.05
Forecast of Demands: Patrol Cars				
Baseline Demand	5.83	5.99	7.83	8.76
Syntana Impact	.09	.23	.42	1.63
Interrelated Project Impact	.05	.35	.43	3.54
Cumulative Increase	.14	.58	.85	5.17
Total Demand	5.97	6.57	8.68	13.93
Percent Increase	1.57	3.84	5.36	18.61
Cumulative Percent Increase	2.40	9.68	10.86	59.01

## Libraries

Library space and books are already below state guidelines for adequacy in both Uintah and Duchesne Counties. The current supply of 25,209 books at the Uintah County library would have to grow to 59,726 books by 1995 under the baseline. The Syntana projects direct demand would require 12,870 additional books at the Uintah County Library. At the same time, the Roosevelt City library, which serves Duchesne County, would need to grow from 250 to 37,368 books from baseline growth. Syntana's direct share of these impacts are forecast at 2,250 books. Additional library space as delineated in Table S-9 will also be required.

TABLE S-9

SYNTANA:  
LIBRARIES

	<u>Uintah County</u>		<u>Duchesne County</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demand: Books				
Baseline Demand	51,460	59,726	35,556	37,368
Syntana Impact	3,294	12,870	844	2,250
Interrelated Project Impact	2,906	23,658	726	5,108
Cumulative Increase	6,200	36,528	1,570	7,358
Total Demand	57,660	96,254	37,126	44,726
Percent Increase	6.40	21.55	2.37	6.02
Cumulative Percent Increase	12.05	61.16	4.42	19.69
Forecast of Demands: Space				
Baseline Demand	12,865	14,932	8,889	9,342
Syntana Impact	823.5	3,218	211	562.5
Interrelated Project Impact	726.5	5,915	181.5	1,227
Cumulative Increase	1,550	9,133	392.5	1,789.5
Total Demand	14,415	24,064	9,282	11,182
Percent Increase	6.40	21.55	2.37	6.02
Cumulative Percent Increase	12.05	61.16	4.42	19.16

## Parks - Neighborhood

The Syntana project would bring a significant additional demand for neighborhood parks, particularly in Vernal and Roosevelt, the primary projected impacted communities (see Table S-10). By 1995, the year Syntana is at full operations, Vernal would require 47 acres of neighborhood parks to serve the direct impacts of Syntana and interrelated projects. Syntana's direct project impacts would be responsible for 19 acres of the demand. Roosevelt, under the baseline forecast, would see a demand for 36 acres in 1995. Syntana's share of the impact under this scenario is projected to be 4 acres or an 11 percent growth over the baseline.



TABLE S-10

SYNTANA:  
PARKS (NEIGHBORHOOD)

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demands: Parks (acres)				
Baseline Demand	55.77	68.21	32.50	35.60
Syntana Impact	4.84	19.03	1.49	4.02
Interrelated Project Impact	3.39	27.97	1.46	10.55
Cumulative Increase	8.23	47.00	2.95	14.57
Total Demand	64.00	115.21	35.45	50.17
Percent Increase	8.68	27.90	4.58	11.29
Cumulative Percent Increase	14.77	68.90	9.08	40.93

## Sewer

Baseline forecasts for Roosevelt project a potential sewer demand for 592,400 waste flow gallons per day by 1995 (see Table S-11). Syntana would increase this demand by 67,000 gallons per day. The cumulative impact of Syntana and interrelated projects' demand could reach 242,800 waste flow gallons per day by the same year, which is the year Syntana will reach full operations. The Syntana cumulative impact would be absorbed within Roosevelt's current sewer capacity.

Vernal will need to complete the construction of its new sewer system to handle baseline projections of 1,136,900 waste flow gallons per day by 1995. Syntana would add 317,200 gallons per day as a direct result of its project's needs. This represents a 27.9 percent growth over baseline demand.

TABLE S-11

SYNTANA:

SEWER

	<u>Roosevelt</u>		<u>Vernal</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecast of Demands: Waste Flow Gallons				
Baseline Demand	541,600	592,400	929,100	1,136,900
Syntana Demand	24,800	67,000	80,600	317,200
Interrelated Project Imp	24,400	175,800	56,500	466,200
Cumulative Increase	49,200	242,800	137,100	783,400
Total Demand	590,800	836,200	1,066,200	1,920,300
Percent Increase	4.57	1.31	8.67	7.90
Cumulative Percent Increase	9.08	.98	4.76	8.91

## Water

Baseline demand for water connections is forecast to grow to 1,622 by 1985 and 1,709 by 1995 in Roosevelt (see Table S-12a). The Syntana project, which is projected to be at full operations in 1995, would add demand for 197 connections from their direct impacts alone. This represents a 12 percent growth over baseline demand. The demand for water connections would be absorbed by current water system capacity.

Vernal City's water system is already strained by excess utilization. Baseline growth requiring 3,087 connections in 1985 and 3,620 connections in 1995 can not be absorbed within the current system. The 933 water connections that Syntana would add at full operations in 1995 could only be handled if planned expansion in the water system in Vernal occurs. Syntana's direct impacts represent a 26 percent growth over the baseline demand.

TABLE S-12a

SYNTANA:

WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1995</u>	<u>1985</u>	<u>1995</u>
Forecasts of Demands: Connections (CPCD)				
Baseline Demand	3087	3620	1622	1709
Syntana Demand	237	933	73	197
Interrelated Project	192	1347	83	508
Cumulative Increase	429	2280	156	705
Total Demand	3515	5900	1778	2414
Percent Increase	8	26	10	12
Cumulative Percent Increase	14	63	10	41

TABLE S-12b

SYNTANA:  
WATER

	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1985</u>	<u>1987</u>	<u>1985</u>	<u>1987</u>
Forecasts of Demands: Water Rights (GPCD)				
Baseline Demand	2,469,600	2,896,000	1,297,600	1,367,200
Syntana Demand	189,600	746,400	58,400	157,600
Interrelated Project	153,600	1,077,600	66,400	406,400
Cumulative Increase	343,200	1,824,000	124,800	564,000
Total Demand	2,812,800	4,720,000	1,422,400	1,931,200
Percent Increase	8	26	10	12
Cumulative Percent Increase	14	63	10	41

TABLE S-12c

## SYNTANA:

## WATER

VernalRoosevelt1985198719851987

Forecasts of Demands: Source (GPCD)

Baseline Demand	4,939,200	5,792,000	2,595,200	2,734,400
Syntana Demand	379,200	1,492,800	1,116,800	315,200
Interrelated Project	307,200	2,155,200	132,800	812,800
Cumulative Increase	686,400	3,648,000	249,600	1,128,000
Total Demand	5,625,600	9,440,000	2,844,800	3,862,400
Percent Increase	8	26	10	12
Cumulative Percent Increase	14	63	10	41

TABLE S-12d

## SYNTANA:

## WATER

VernalRoosevelt1985198719851987

## Forecasts of Demands: Storage (GPCD)

Baseline Demand	2,469,600	2,896,000	1,297,600	1,367,200
Syntana Demand	189,600	746,400	58,400	157,600
Interrelated Project	153,600	1,077,600	66,400	406,400
Cumulative Increase	343,200	1,824,000	124,800	564,000
Total Demand	2,812,800	4,720,000	1,422,400	1,931,200
Percent Increase	8	26	10	12
Cumulative Percent Increase	14	63	10	41



TABLE S-12e

## SYNTANA:

## WATER

VernalRoosevelt1985198719851987

## Forecasts of Demands: Supply (GPCD)

Baseline Demand	4,939,200	5,792,000	2,595,200	2,734,400
Syntana Demand	379,200	1,492,800	1,116,800	315,200
Interrelated Project	307,200	2,155,200	132,800	812,800
Cumulative Increase	686,400	3,648,000	249,600	1,128,000
Total Demand	5,625,600	9,440,000	2,844,800	3,862,400
Percent Increase	8	26	10	12
Cumulative Percent Increase	14	63	10	41

## Transportation

Traffic projections prepared for Syntana indicate a considerable amount of traffic on new road "A". By 1995, approximately 2,300 vehicles per day would be using this facility. The primary destination for these trips would be Vernal City. (Table S2C-1)

A comparison with baseline volume-to-capacity and level-of-service shows the LOS dropped to a level "B" on New Road A by 1995. S.R. 88 and I-70 will not be affected by the construction of the Syntana project.

Most of the truck traffic generated by Syntana would be transporting sulfur, ammonia and supplies to the site. This is estimated to be 4 trips per day with 50 percent going to Vernal and the others to Craig, Colorado. Construction activities would also generate additional heavy truck trips hauling heavy equipment to the site.

TABLE S2C-1

SYNTANA  
TRAFFIC PROJECTIONS\*  
(Baseline Included)

## BASELINE TRAFFIC PROJECTIONS\*

Highway Link	1985	1995	V/C 1985	LOS	V/C 1995	LOS	1985	1995	V/C 1985	LOS	V/C 1995	LOS
U.S. 40												
Co. Line to 264	6,818	7,089	.74	D	.77	D	5,440	6,517	.59	C	.71	D
264 to 88	3,995	5,013	.43	C	.55	C	3,706	4,441	.40	B	.48	C
88 to Vernal	4,244	5,311	.46	C	.58	C	3,955	4,739	.43	C	.52	C
Vernal to Jensen	5,398	6,646	.66	C	.82	D	5,356	6,542	.66	C	.80	D
Jensen to 45	2,390	2,972	.33	B	.41	B	2,348	2,868	.32	B	.40	B
45 to Utah/Colo	2,095	2,710	.29	B	.37	B	1,975	2,412	.27	B	.33	B
I-70												
SR 163 to Utah/Colo	4,175	6,801	.11	A	.17	A	4,175	6,801	.11	A	.17	A
SR 88												
U.S. 40 to SR 264	364	466	.06	A	.07	A	364	466	.06	A	.07	A
SR 264 to Ouray	419	537	.06	A	.08	A	419	537	.06	A	.08	A
New Road "C"	--	--	--	--	--	--	--	--	--	--	--	--
SR 45												
Northern	393	597	.06	A	.09	A	315	403	.05	A	.06	A
Southern	409	618	.06	A	.09	A	331	424	.05	A	.06	A
New Road "D"	--	--	--	--	--	--	--	--	--	--	--	--
Colo. 64												
Dinosaur to Rangely	4,197	5,278	.46	C	.57	C	4,077	4,980	.44	C	.54	C
New Road "A"												
Vernal to SR 45	845	2,291	.09	A	.25	B	--	--	--	--	--	--

\* These numbers represent average annual daily traffic.

V/C indicates Volume to Capacity Ratio.

LOS indicates Level of Service.

CHAPTER T

TOSCO

## TOSCO

### Impact Projections

The TOSCO project will produce 4,500 bopd at full production. It has a seven-year construction period which will peak in 1986. This will have the largest construction labor force requirements of all the projects in this analysis; the peak employment will reach the 3,600 level. The impacts associated with this project will create the greatest influx of people into the communities. The assumption behind this result is that less than 40 percent of the construction work force would locate in the construction camp; consequently more workers will be seeking housing in the communities. Thus, projected impacts for TOSCO differ from the character of the impacts of the other synthetic fuel projects in that its construction phase impacts will be greater than those created by employment in the operations phase.

In Uintah County, population increases are projected to be over 5,000 more people during the construction peak; with the addition of the workers in the construction camp, the population impact will reach 6,800. This will represent a 20 percent increase. Duchesne County also will be significantly impacted by a population increase of 13 percent. The number of households in each county will increase by 24 percent (Uintah County) and 15 percent (Duchesne County). However, at the community level, Roosevelt rather than Vernal will experience the higher relative increase in population. The projected impact to Roosevelt of about 1,300 people will be only half the magnitude of the population increase for Vernal, however, for Roosevelt it represents a 24 percent increase compared to a 10 percent change for Vernal. The impact on the Colorado area is over 400 people; however, that figure is only 4 percent of the total population impact of the TOSCO project. The impact to Dinosaur will be significant.

In 1989, the operations employment will reach its full production level. Of the projects being analyzed, the TOSCO project will have the highest level of operations employment. Although the growth will be more evenly distributed between Uintah and Duchesne counties than will be the impacts from Enercor-Mono Power, Paraho and Syntana, the population impact will be about two-and-a-half times as great in Uintah (about 4,800) as in Duchesne. However, that change for Duchesne County will represent a 10 percent increase

in population. At the community level, Roosevelt will have the largest relative population increase (19 percent) where Ballard and Myton, also impacted by TOSCO, will have populaion increases of 10 and 9 percent, respectively. Both communities are small with populations just over 500; in this case the impacts of less than 100 people may create significant problems for the towns.

The combined scenario with TOSCO and interrelated projects reveal dramatically greater impacts. The characteristics of the combined impacts will be similar to those described for the other site specific projects. The one feature that will stand out will be the higher proportion of the impacts felt in the city of Roosevelt. Population increases above the baseline will range from 34 percent to 45 percent between 1986 to 1989. This will reflect an average rate of growth of 5 percent per year between 1986 and 1989. However, comparing the prior three-year period, the average annual rate of growth for Roosevelt would be over 15 percent during the construction phase. Such rapid change would present a great challenge to the city in providing adequate services.

## Housing

The number of dwelling units necessary to adequately house Uintah County residents under baseline growth assumptions in 1989 would reach 8,342 dwelling units (see Table T-1). Vernal's share of that demand is projected to reach 3,470; whereas, Ballard's share would grow to 240 dwelling units. The direct Tosco impacts for Uintah County would increase the demand by 1,402 dwelling units. Vernal's share of that forecast is 686 dwelling units, while Ballard's share is forecast at 20 dwelling units.

At the same time, Duchesne County would need 5,429 dwelling units under the baseline assumptions. Roosevelt's share of the housing units would reach 1,743, while Myton will need to provide 216 dwelling units. The Tosco and interrelated projects cumulative impact scenario would raise the demand by 1,335 dwelling units within the county. Roosevelt would receive 857 of those dwelling units, which is the largest share. Myton would require another 42 units to handle the projected growth.

TABLE T-1

TOSCO:  
HOUSING

	<u>Uintah County</u>		<u>Duchesne County</u>	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Households				
Baseline Demand	7,887	8,342	5,386	5,429
Tosco Demand	1,602	1,402	677	554
Interrelated Project Imp	1,052	2,884	264	781
Cumulative Increase	2,654	4,286	941	1,335
Total Demand	10,541	12,628	6,327	6,764
Percent Increase	.31	6.81	2.57	.20
Cumulative Percent Increase	3.65	1.38	7.47	4.59
	<u>Vernal</u>		<u>Roosevelt</u>	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Households				
Baseline Demand	3,192	3,470	1,670	1,743
Tosco Demand	771	686	403	330
Interrelated Project Impact	410	1,123	177	527
Cumulative Increase	1,181	1,809	580	857
Total Demand	4,373	5,279	2,550	2,600
Percent Increase	4.15	9.77	4.13	8.93
Cumulative Percent Increase	6.99	2.13	4.73	9.17
	<u>Ballard</u>		<u>Myton</u>	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Households				
Baseline Demand	215	240	207	216
Tosco Demand	24	20	20	16
Interrelated Project Impact	14	38	9	26
Cumulative Increase	38	58	29	42
Total Demand	253	287	236	258
Percent Increase	11.16	8.33	9.66	7.41
Cumulative Percent Increase	7.67	4.16	4.01	9.44



## Education

Tosco would reach its highest impact on the education system in the Uintah School District at peak construction in 1986 (see Table T-2). At that time, the direct project impacts would bring an additional 1,084 students into the district or a 15.5 percent growth over baseline. Duchesne School District would face a 9.6 percent growth or 458 additional students requiring services at the same time. This will represent an additional demand for 37 classrooms and teachers in Uintah County, and 14 additional classrooms and teachers in Duchesne County at peak construction.

At full operation in 1989, the direct demand from the Tosco project would decrease to 922 students or an 11.4 percent growth over baseline in Uintah County. This will still present a significant impact under the BLM guideline of a 10 percent significant impact trigger. Duchesne School District under the same scenario would see a 6.78 percent growth in the number of students over the baseline from the 360 students projected as a result of the Tosco project.

TABLE T-2

TOSCO  
EDUCATION

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Students				
Baseline Demand	4,771	5,312	6,985	8,080
Tosco Impact	458	360	1,084	922
Interrelated Project Impact	148	472	630	1,744
Cumulative Increase	616	832	1,714	2,666
Total Demand	5,387	6,144	8,699	10,746
Percent Increase	9.60	6.78	15.52	11.41
Cumulative Percent Increase	12.91	15.66	24.54	33.00
Forecast of Demands: Classrooms				
Baseline Demand	190.84	212.48	279.40	323.20
Tosco Impact	18.32	14.40	43.60	36.88
Interrelated Project Impact	6.32	18.88	25.20	69.76
Cumulative Increase	24.64	33.28	68.80	106.64
Total Demand	215.48	245.76	347.96	429.84
Percent Increase	9.60	6.78	15.60	11.41
Cumulative Percent Increase	12.91	15.66	24.62	33.00
Forecast of Demand: Teachers				
Baseline Demand	190.84	212.48	279.40	323.20
Tosco Impact	18.32	14.40	43.60	36.88
Interrelated Project Impact	6.32	18.88	25.20	69.76
Cumulative Demand	24.64	33.28	68.80	106.64
Total Demand	215.48	245.76	347.96	429.84
Percent Increase	9.60	6.78	15.60	11.41
Cumulative Percent Increase	12.91	15.66	24.62	33.00

## Health

The number of physicians (see Table T-3) would need to grow to 26 by 1989 for the two-county service area of Duchesne & Uintah County under baseline growth assumptions. Tosco's direct share of that impact will require 4 of those physicians or a 14 percent growth over baseline. Interrelated projects would stimulate demand for seven additional physicians for a cumulative increase of 41 percent from the Tosco project and interrelated projects.

By 1989, the demand for nurses is projected to grow to 79 for the two-county service area under baseline growth assumptions. Tosco would increase that demand by 11 nurses, and the interrelated projects would add demand for another 21 nurses. The cumulative percent of increase for these assumptions would cause a 42.65 percent increase in demand for nurses over baseline assumptions. The number of nurses would need to double by 1989 under baseline growth projections. Tosco would increase demand for public health nursing services, requiring one additional nurse. The interrelated projects would stimulate demand for three more nurses, raising the cumulative increase over baseline by 41.35 percent.

Duchesne County would require one additional ambulance, while Uintah County would need to double their current supply to 6 under baseline growth assumptions. The cumulative impacts from Tosco and the proposed interrelated projects would increase the number of ambulances by one ambulance in Duchesne County and three in Uintah County by 1989. This increase will represent a 22 percent growth over baseline in Duchesne County and a 53.68 percent increase in Uintah County. The Tosco project would also stimulate demand for 3 EMT's in Duchesne County and 7 EMT's in Uintah County under the same scenario.

The Tosco project would also stimulate demand for additional dentists in the study area. Duchesne County would need the services of one additional dentist by 1989 as a direct result of the Tosco project. Interrelated projects could raise demand by another one dentist, for a cumulative increase of 22 percent in Duchesne County. The Tosco project's direct impact would require 2 dentists in Uintah County. This, coupled with the proposed interrelated project demand for 5 dentists, would result in a 61 percent growth over baseline demand.

TABLE T-3

TOSCO:  
HEALTHDuchesne and Uintah Counties

	<u>1986</u>	<u>1989</u>
Forecast of Demands: Medical Doctors		
Baseline Demand	24.78	26.32
Tosco Impact	4.30	3.73
Interrelated Project Impact	2.48	7.16
Cumulative Increase	6.78	10.89
Total Demand	31.56	37.21
Percent Increase	17.35	14.17
Cumulative Percent Increase	27.36	41.38
Forecast of Demand: Nurses		
Baseline Demand	74.33	78.96
Tosco Impact	12.91	11.19
Interrelated Project Impact	7.45	21.49
Cumulative Increase	20.36	33.68
Total Demand	94.69	111.64
Percent Increase	17.37	14.17
Cumulative Percent Increase	27.39	42.65
Forecast of Demand: Public Health Nurses		
Baseline Demand	8.92	9.48
Tosco Impact	1.55	1.34
Interrelated Project Impact	0.89	2.58
Cumulative Increase	2.44	3.92
Total Demand	11.36	13.40
Percent Increase	17.38	14.14
Cumulative Percent Increase	27.35	41.35

TABLE T-4

TOSCO:

HEALTH

	<u>Duchesne County</u>		<u>Uintah County</u>	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Ambulances				
Baseline Demand	3.62	3.74	5.30	5.74
Tosco Demand	0.46	0.38	1.09	0.97
Interrelated Project Impact	0.16	0.46	0.74	2.12
Cumulative Increase	0.62	0.84	1.83	3.09
Total Demand	4.24	4.58	7.12	8.82
Percent Increase	12.71	10.16	20.57	16.90
Cumulative Percent Increase	17.13	22.46	34.53	53.83
Forecast of Demands: EMT's				
Baseline Demand	25.34	26.15	37.10	40.18
Tosco Impact	3.22	2.64	7.64	6.76
Interrelated Project Impact	1.11	3.25	5.15	14.81
Cumulative Increase	4.33	5.89	12.79	21.57
Total Demand	29.67	32.03	49.87	61.75
Percent Increase	12.71	10.10	20.59	16.32
Cumulative Percent Increase	17.09	22.52	34.47	53.68
Forecast of Demands: Dentists				
Baseline Demand	9.05	9.34	13.25	14.35
Tosco Impact	1.15	0.94	2.72	2.42
Interrelated Project Impact	0.40	1.16	1.84	5.29
Cumulative Increase	1.55	2.10	4.56	8.71
Total Demand	10.60	11.44	17.81	22.05
Percent Increase	11.05	10.06	20.53	16.86
Cumulative Percent Increase	17.13	22.48	34.42	60.70
Forecast of Demands: Hospital Beds				
Baseline Demand	36.20	37.35	53.00	57.40
Tosco Impact	4.60	3.77	13.61	9.74
Interrelated Project Impact	1.59	4.64	7.35	21.15
Cumulative Increase	6.19	8.41	20.96	30.89
Total Demand	42.38	45.40	73.96	88.29
Percent Increase	12.71	10.09	25.68	16.97
Cumulative Percent Increase	17.10	22.52	39.55	53.82

## Mental Health

The District Social Services Office provides the limited services available for mental health clients within the study area. The current 2.3 staff are already severely inadequate according to state guidelines. Almost a 400 percent growth over baseline would be required to meet baseline demand of 9.48 staff by 1989 (see Table T-5). Tosco would stimulate a 14.1 percent increase in demand over baseline growth for an additional 1.34 social worker by 1989, the year of full operations. The services of .37 percent of a clinical psychologist/ psychiatrist would also be required by 1989 as a result of the Tosco project. The cumulative impact of Tosco and interrelated projects would require one additional clinical psychologist/psychiatrist. At the same time, this will represent a 43 percent growth over baseline.

TABLE T-5

TOSCO:  
MENTAL HEALTHDuchesne and Uintah Counties

	<u>1986</u>	<u>1989</u>
Forecast of Demands: Social Workers		
Baseline Demand	8.92	9.48
Tosco Impact	1.55	1.34
Interrelated Project Impact	0.89	2.58
Cumulative Increase	2.44	3.92
Total Demand	11.36	13.40
Percent Increase	17.38	14.14
Cumulative Percent Increase	17.35	41.35
Forecast of Demands: Clinical Psychologists		
Baseline Demand	2.23	2.37
Tosco Impact	0.39	0.37
Interrelated Project Impact	0.22	0.65
Cumulative Increase	0.61	1.02
Total Demand	2.84	3.39
Percent Increase	17.49	15.61
Cumulative Percent Increase	27.35	43.04

#### Law Enforcement

Substantial growth in demand for law enforcement officers is projected for both Duchesne and Uintah Counties under baseline forecasts for 1989. State guidelines forecast a demand for 24 and 34 officers respectively in those cities. Tosco's direct impacts could represent a 5.9 percent growth over baseline in Duchesne, or one additional officer. In Uintah County, Tosco's direct impact would increase the demand by 5 officers, or 14.3 percent growth over the baseline forecasts. When the cumulative impacts of Tosco and the proposed interrelated projects are considered, Uintah County would see a 56.17 percent increase in demand for police officers, while Duchesne County would see an 11.6 percent increase over the baseline.



TABLE T-6

TOSCO:  
LAW ENFORCEMENT

<u>County</u>	<u>Duchesne County</u>		<u>Uintah</u>	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Officers				
Baseline Demand	23.52	23.80	32.03	34.02
Tosco Impact	1.73	1.41	5.49	4.86
Interrelated Project Impact	0.47	1.35	4.81	14.25
Cumulative Increase	2.20	2.76	10.30	19.11
Total Demand	25.72	26.56	42.33	53.13
Percent Increase	7.36	5.92	3.12	14.29
Cumulative Percent Increase	9.35	11.60	32.16	56.17
Forecast of Demands: Patrol Cars				
Baseline Demand	5.88	5.95	8.01	8.51
Tosco Impact	0.43	0.35	1.37	1.22
Interrelated Project Impact	0.12	0.34	1.20	3.56
Cumulative Increase	0.55	0.69	2.57	4.78
Total Demand	6.43	6.64	10.58	13.28
Percent Increase	7.31	5.88	17.10	14.34
Cumulative Percent Increase	9.35	11.60	32.08	56.17

## Libraries

The Uintah County library under baseline growth projections for 1989 would need to grow to 57,396 books from the existing 25,206. At that time, which is the year Tosco is projected to reach full operations, the direct impacts from the Tosco project would stimulate demand for another 9,658 books, or a 16.8 percent increase over baseline. The cumulative impact of Tosco and interrelated projects would raise the demand for library books by 30,808 in Uintah County. Floor space to accommodate this size of library is delineated in Table T-7.

Roosevelt's library, which has a limited 250 books currently, would need to grow to 37,354 books, under baseline assumptions in 1989, to meet state guidelines for services. Tosco's projected share of the impact of 3,766 books is a 10 percent growth over baseline. The cumulative scenario of Tosco and interrelated projects would bring an additional demand for 8,406 books by 1989.

TABLE T-7

TOSCO:  
LIBRARIES

	<u>Books</u>		<u>Space</u>	
	1986	1989	1986	1989
<u>Uintah County</u>				
Baseline Demand	53,000	57,396	13,250	14,340
Tosco Impact	10,892	9,658	2,723	2,415
Interrelated Project Imp	7,350	21,150	1,838	5,288
Cumulative Increase	18,242	30,808	4,561	7,703
Total Demand	71,242	88,204	17,811	22,051
Percent Increase	20.55	16.83	20.55	16.84
Cumulative Percent Inc	34.42	53.68	34.42	53.72
<u>Duchesne County</u>				
Baseline Demand	36,196	37,354	9,049	9,339
Tosco Impact	4,602	3,766	1,151	941.5
Interrelated Project Imp	1,586	4,640	396.5	1,160
Cumulative Increase	6,188	8,406	1,547.5	2,101.5
Total Demand	42,384	45,760	10,596	11,440
Percent Increase	12.71	10.08	12.72	10.08
Cumulative Percent Inc	17.10	22.50	17.10	22.50

## Parks

The Tosco project would directly impact the demand for neighborhood parks to the communities of Vernal, Ballard, Roosevelt and Myton (see Table T-8). By 1989, the Tosco project's direct impacts in Vernal would cause a need for 14 additional acres of parks. A demand for 20 acres of park space would be the result of interrelated projects. Ballard would need 1 additional acre of parks from the cumulative impact of Tosco, plus the proposed interrelated projects.

Roosevelt's 36 acres of community parks would need to grow by 16 acres if Tosco and the interrelated project occurs. This would represent a 44.8 percent growth over baseline demand. Myton would require one additional acre of park under the cumulative impacts of Tosco and the interrelated projects.

TABLE T-8

TOSCO:

## PARKS (Neighborhood)

	<u>Acres</u>	
	<u>1986</u>	<u>1989</u>
<u>Vernal</u>		
Baseline Demand	58.03	64.54
Tosco Impact	15.72	13.99
Interrelated Project Demand	7.37	20.02
Cumulative Increase	23.09	34.01
Total Demand	81.12	98.55
Percent Increase	27.09	21.68
Cumulative Percent Increase	39.79	52.70
<u>Roosevelt</u>		
Baseline Demand	33.66	35.98
Tosco Impact	8.21	6.74
Interrelated Project Impact	3.19	9.39
Cumulative Increase	11.40	16.13
Total Demand	45.06	52.11
Percent Increase	24.39	18.73
Cumulative Percent Increase	33.87	44.83
<u>Ballard</u>		
Baseline Demand	4.90	5.36
Tosco Impact	0.50	0.40
Interrelated Project Impact	0.26	0.63
Cumulative Increase	0.76	1.03
Total Demand	5.66	6.39
Percent Increase	10.20	7.46
Cumulative Percent Increase	15.51	19.22
<u>Myton</u>		
Baseline Demand	4.38	4.69
Tosco Impact	0.41	0.34
Interrelated Project Impact	0.16	0.47
Cumulative Increase	0.57	0.81
Total Demand	4.95	5.50
Percent Increase	9.36	7.25
Cumulative Percent Increase	13.01	17.27

## Sewer

Baseline growth projections forecast a substantial increase in sewer demand within Myton, Roosevelt, and Vernal, as shown in Table T-9. Myton would see a growth in sewer needs of 78,100 waste flow gallons per day by 1989 under baseline growth. This would grow to 91,500 waste flow gallons per day under the Tosco cumulative impact scenario. Tosco will represent a 7.1 percent increase of baseline growth. The current system appears adequate to absorb this increase.

Roosevelt would be producing 599,700 gallons of waste flow a day under baseline growth in 1989. Tosco could provide another 112,300 waste flow gallons per day or a 18.7 percent increase over baseline demand. Roosevelt should also be able to accommodate the expected increase under the Tosco cumulative demand scenario.

Vernal City would see an increase in sewer demand of 1,075,700 gallons per day by 1989, substantially surpassing its capacity. Tosco would provide an additional 233,100 waste flow gallons per day for the system to absorb by 1989. This is 21.7 percent growth over baseline.

TABLE 7-9

TOSCO:

SEWER

	Ballard		Myton	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Waste Flow Gallons				
Baseline Demand	81,600	93,200	73,000	78,100
Tosco Demand	8,300	6,700	6,800	5,600
Interrelated Project Imp	4,300	11,300	2,700	7,800
Cumulative Increase	12,600	18,000	9,500	13,400
Total Demand	94,200	111,200	82,500	91,500
Percent Increase	10.17	7.19	9.32	7.17
Cumulative Percent Inc	15.44	19.31	13.01	17.16

	Roosevelt		Vernal	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecast of Demands: Waste Flow Gallons				
Baseline Demand	561,000	599,700	967,100	1,075,700
Tosco Demand	136,900	112,300	262,000	233,200
Interrelated Project Imp	553,200	156,500	122,900	333,600
Cumulative Increase	693,100	268,800	384,900	566,800
Total Demand	751,100	868,500	1,352,000	1,642,400
Percent Increase	24.40	18.73	27.09	21.67
Cumulative Percent Inc	33.89	44.82	39.80	52.68

## Water

Myton is projected to have a baseline demand for water connections of 216 in 1989 (see Table T-10). Tosco would need 16 connections in Myton as a result of their project. This represents a 10 percent growth over baseline demand. The Myton system should be able to absorb this within its current system. Roosevelt would see the demand for water connections rise to 1,743 under baseline growth and 330 from the direct Tosco impacts. Although the cumulative impact will be a 49 percent increase over baseline, the current system should be able to absorb the projected growth.

Ballard's existing capacity of 250 water connections would absorb the projected baseline for 240 water connections by 1989. They would, however, exceed capacity under the Tosco cumulative impact scenario. This scenario would potentially require 298 water connections. Tosco's direct share of this is projected at a 8 percent growth over baseline demand or 20 connections.

Vernal's water system is already substantially exceeding its capacity. Planned expansion in their water system will be necessary to handle any new growth. Baseline forecasts for demand could reach 3,470 connections in 1989. The Tosco and interrelated projects' cumulative demand would raise the baseline projection by 1,809 connections. Tosco's direct impacts would be responsible for 686 connections or a 20 percent growth over baseline demand.



TABLE T-10a

TOSCO:

WATER

	Ballard		Myton	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demand: Connections (GPCD)				
Baseline Demand	215	240	207	216
Tosco Demand	24	20	20	16
Interrelated Project Imp	14	38	9	26
Cumulative Increase	38	58	29	42
Total Demand	253	298	236	258
Percent Increase	11	8	10	10
Cumulative Percent Increase	18	24	14	20

	Roosevelt		Vernal	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demands: Connections (GPCD)				
Baseline Demand	1,670	1,743	3,192	3,470
Tosco Demand	403	330	771	686
Interrelated Project Imp	177	527	410	1,123
Cumulative Increase	580	857	1,181	1,809
Total Demand	2,550	2,600	4,373	5,279
Percent Increase	24	20	24	20
Cumulative Percent Increase	35	49	37	52

TABLE T-10b

TOSCO:  
WATER

	Ballard		Myton	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demand: Water Rights (GPCD)				
Baseline Demand	172,000	192,000	165,600	172,800
Tosco Demand	19,200	16,000	16,000	12,800
Interrelated Project Imp	43,200	30,400	7,200	20,800
Cumulative Increase	30,400	46,400	23,200	33,600
Total Demand	202,400	238,400	188,800	206,400
Percent Increase	11	8	10	10
Cumulative Percent Increase	18	24	14	20

	Roosevelt		Vernal	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demands: Water Rights (GPCD)				
Baseline Demand	1,336,000	1,394,400	2,553,600	2,776,000
Tosco Demand	322,400	264,000	616,800	548,800
Interrelated Project Imp	141,600	421,600	32,800	898,400
Cumulative Increase	464,000	685,600	944,800	1,447,200
Total Demand	2,040,000	2,080,000	3,498,400	4,223,200
Percent Increase	24	20	24	20
Cumulative Percent Increase	35	49	37	52

TABLE T-10c

TOSCO:  
WATER

	Ballard		Myton	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demand: Supply (GPCD)				
Baseline Demand	344,000	384,000	331,200	345,600
Tosco Demand	38,400	32,000	32,000	25,600
Interrelated Project Imp	86,400	60,800	14,400	41,600
Cumulative Increase	60,800	92,800	46,400	67,200
Total Demand	404,800	476,800	377,600	412,800
Percent Increase	11	8	10	10
Cumulative Percent Increase	18	24	14	20

	Roosevelt		Vernal	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demands: Supply (GPCD)				
Baseline Demand	2,672,000	2,788,800	5,107,200	5,552,000
Tosco Demand	644,800	528,000	1,233,600	1,097,600
Interrelated Project Imp	2,832,200	843,200	65,600	1,796,800
Cumulative Increase	928,000	1,371,200	1,889,600	8,446,400
Total Demand	4,080,000	4,160,000	6,996,800	8,446,400
Percent Increase	24	20	24	20
Cumulative Percent Increase	35	49	37	52

TABLE T-10d

TOSCO:  
WATER

	Ballard		Myton	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demand: Storage (GPCD)				
Baseline Demand	172,000	192,000	165,600	172,800
Tosco Demand	19,200	16,000	16,000	12,800
Interrelated Project Imp	43,200	30,400	7,200	20,800
Cumulative Increase	30,400	46,400	23,200	33,600
Total Demand	202,400	238,400	188,800	206,400
Percent Increase	11	8	10	10
Cumulative Percent Increase	18	24	14	20

	Roosevelt		Vernal	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demands: Storage (GPCD)				
Baseline Demand	1,336,000	1,394,400	2,553,600	2,776,000
Tosco Demand	322,400	264,000	616,800	548,800
Interrelated Project Imp	141,600	421,600	32,800	898,400
Cumulative Increase	464,000	685,600	944,800	1,447,200
Total Demand	2,040,000	2,080,000	3,498,400	4,223,200
Percent Increase	24	20	24	20
Cumulative Percent Increase	35	49	37	52

TABLE T-10e

TOSCO:  
WATER

	Ballard		Myton	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demand: Source (GPCD)				
Baseline Demand	344,000	384,000	331,200	345,600
Tosco Demand	38,400	32,000	32,000	25,600
Interrelated Project Imp	86,400	60,800	14,400	41,600
Cumulative Increase	60,800	92,800	46,400	67,200
Total Demand	404,800	476,800	377,600	412,800
Percent Increase	11	8	10	10
Cumulative Percent Increase	18	24	14	20

	Roosevelt		Vernal	
	<u>1986</u>	<u>1989</u>	<u>1986</u>	<u>1989</u>
Forecasts of Demands: Source (GPCD)				
Baseline Demand	2,672,000	2,788,800	5,107,200	5,552,000
Tosco Demand	644,300	528,000	1,233,600	1,097,600
Interrelated Project Imp	283,200	843,200	65,600	1,796,800
Cumulative Increase	928,000	1,371,200	1,889,600	2,894,400
Total Demand	4,080,000	4,160,000	6,996,800	8,446,400
Percent Increase	24	20	24	20
Cumulative Percent Increase	35	49	37	52

## Transportation

Traffic projections were prepared for the years 1986 and 1989. TOSCO's traffic is projected to use S.R. 88 and new road "A". The impact in 1986 would be significant on U.S. 40 between Roosevelt and Vernal. All other roads in the network could accommodate the additional traffic demand. (Table T2C-1)

A comparison with baseline traffic projections for 1989 shows traffic increases on U.S. 40, S.R. 88, S.R. 45 and Colorado S.R. 64 because of the TOSCO project. Diminishing levels of service will be experienced on these roads also. TOSCO would create the decline of LOS from D to E on U.S. 40 between Vernal and Roosevelt and drop the LOS from A to B on S.R. 88.

Trucking water to the site until a permanent method (pipeline) can be completed will probably generate the largest number of heavy truck trips. Over eighty truck trips per day are estimated to transport materials from the site.

TABLE T2C-1

TOSCO  
TRAFFIC PROJECTIONS\*  
(Baseline Included)

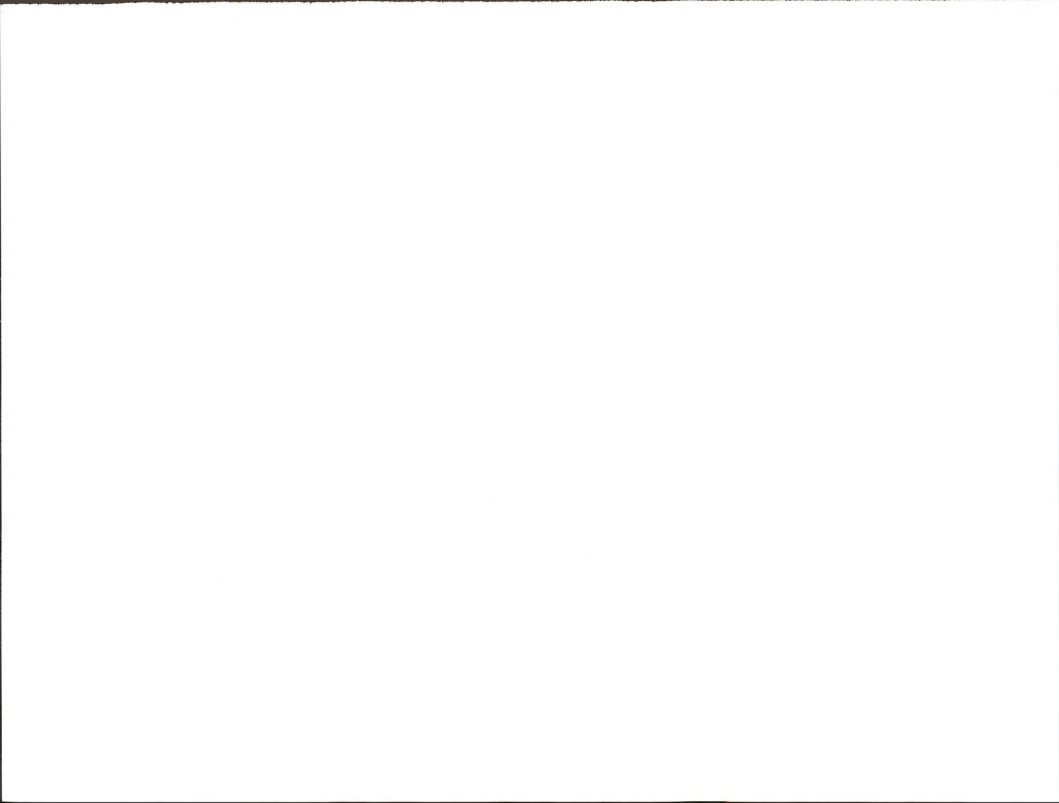
BASELINE TRAFFIC PROJECTIONS\*

Highway Link	1986	1989	V/C 1986	LOS	V/C 1989	LOS	1986	1989	V/C 1985	LOS	V/C 1993	LOS
U.S. 40												
Co. Line to 264	8,211	7,764	.89	E	.84	E	5,573	5,973	.59	C	.71	D
264 to 88	5,474	5,300	.60	C	.58	C	3,789	4,053	.40	B	.48	C
88 to Vernal	5,702	5,676	.62	C	.62	C	4,045	4,326	.43	C	.51	C
Vernal to Jensen	5,632	5,976	.69	D	.73	D	5,484	5,893	.66	C	.80	D
Jensen to 45	2,553	2,669	.35	B	.37	B	2,405	2,586	.32	B	.39	B
45 to Utah/Colo I-70	2,316	2,339	.32	B	.32	B	2,023	2,173	.27	B	.33	B
SR 163 to Utah/Colo SR 88	4,383	5,075	.11	A	.13	A	4,383	5,075	.11	A	.16	A
U.S. 40 to SR 264	2,545	2,091	.39	B	.32	B	373	402	.06	A	.07	A
SR 264 to Ouray	2,601	2,151	.40	B	.33	B	429	462	.06	A	.08	A
New Road "C"	--	--	--	--	--	--	--	--	--	--	--	--
SR 45												
Northern	417	400	.06	A	.06	A	322	347	.05	A	.06	A
Southern	434	418	.07	A	.06	A	339	365	.05	A	.06	A
New Road "D"	--	--	--	--	--	--	--	--	--	--	--	--
Colo. 64												
Dinosaur to Rangely	4,469	4,652	.49	C	.51	C	4,175	4,486	.44	C	.54	C
New Road "A"												
Vernal to SR 45	1,172	933	.13	A	.10	A	--	--	--	--	--	--

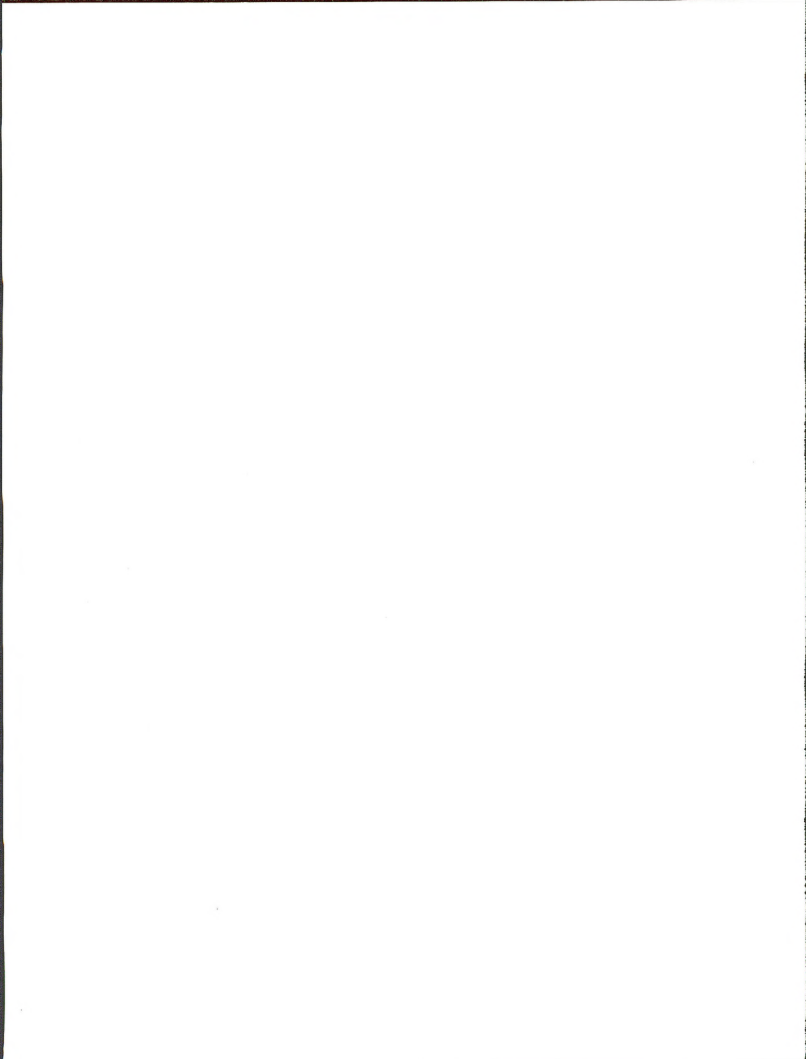
\* These numbers represent average annual daily traffic.

V/C indicates Volume to Capacity Ratio.

LOS indicates Level of Service.







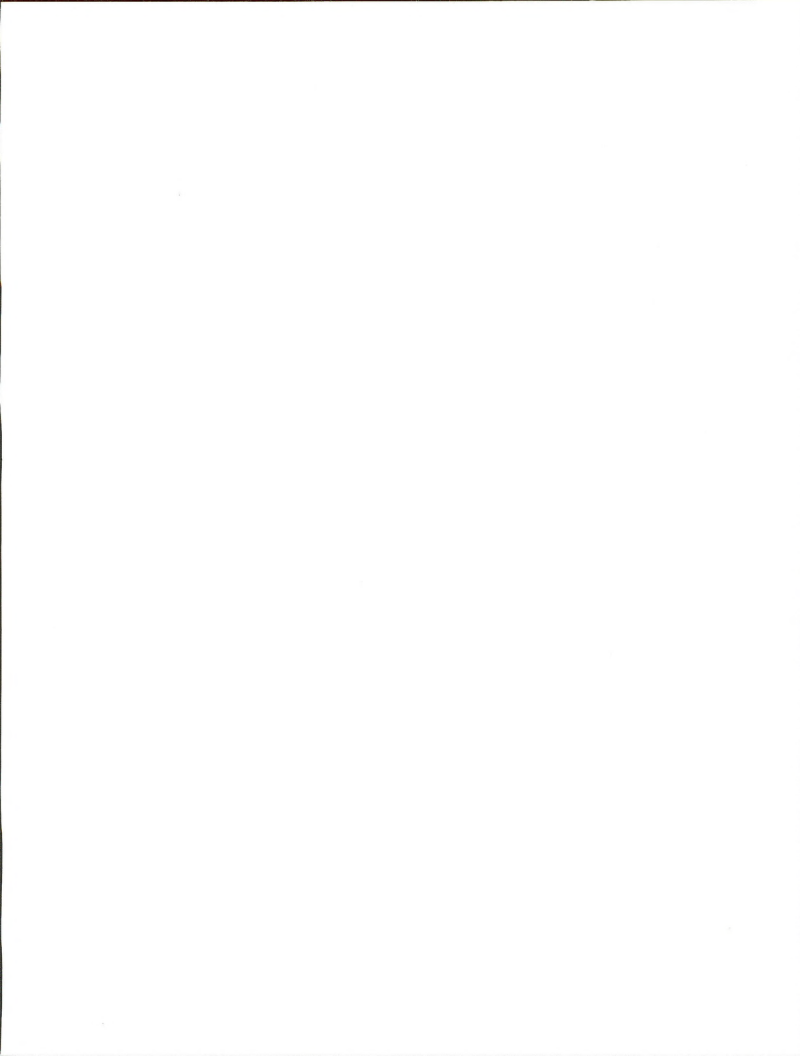
## GLOSSARY

Basic Employment - The term basic employment refers to employment which produces goods exported out of a defined region and services provided to non-resident populations.

Census County Division (CCD) - The Census County Divisions are geographic areas which have been defined by The Bureau of the Census in cooperation with state and county officials for the purpose of presenting statistical data at the sub-county level.

Household - The Bureau of the Census definition of household applies in this report. The total number of households is projected based on the summation of the number of female heads and male heads of households derived by applying age and sex specific head of household rates (1970 Census) to the total population projected.

Significant Impact - Significant impacts are defined as population increases for a county or incorporated community which equal or exceed an area's baseline projection.



## SOURCE

1. Moon Lake EIS by BLM (DOI) & Department of Agriculture. REA 1/81
2. Utah 2000 & High Development Scenario by QSPC, 3/80
3. Oil Shale Impact: APA 8/81
4. Ashley Valley Master Plan by APA 8/81
5. Uintah Basin Housing by Ron Heitman, 1981
6. Tosco Foundation: Energy Resource Development Socioeconomic Impacts and Current Status of Impact Assessment 10/78
7. Energy Development Economic/Demographic Projections: BEBR 7/81
8. Socio/Economic Impacts from Energy/Argonne 12/76
9. Public Sector Effects of a New Industry in a Rural Area, Hertsgaard 1975
10. Impact of Energy Development on Human Services. Utah Energy Office. No Date.
11. Community Impact Assistance Study by Intergovernmental and Interagency Task Force on Community Impact Assistance. Pres. Economic Adjustment Committee 7/81.
12. White River Oil Shale/Community Infrastructure and Support. Gibbs & Hill 8/81.
13. Health Impacts/J.S.A. 11/81
14. Uintah Basin Oil Shale Impact Study - APA 10/80; 6/81; 4/82
15. Uintah Basin Transportation Study. Wayne T. Van Wagoner & Associates 12/80
16. A Proposal to Prepare a Fiscal Impact Assessment of Sy nfuels Development in the Uintah Basin by JSA 8/81
17. White River EIS. Paul Nelson & Associates
18. Uintah Basin Areawide Water Quality Management Plan, Uintah Basin Association of Governments. 10/77
19. An Assessment of Oil Shale and Tar Sands Development in the State of Utah by UEO, 5/80.
20. Magic Circle Oil Shale Report by JSA, 4/81.

21. A Proposal to Prepare a Socio-Economic Impact Assessment and Mitigation Plan Concerning Plateau's Proposed Refinery Expansion in the Uintah Basin by JSA. 4/81
22. Anticipated Socio-Economic Impacts in the Uintah Basin Resulting from Oil Shale Development by Logan, Wiseman, Albrecht, Gardner - No Date.
23. Public Service Standards by Rogers, Merrell, Lee, 11/81
24. An Empirical Investigation of the Factors Affecting Socio-Economic Impacts from Energy Development by Argonne. 9/77
25. Cathedral Bluffs Shale Oil Project - Quality Development Assoc., Inc. 8/80
26. Baseline Description of Socio-Economic Conditions in the Uintah Basin by Western Environmental Associates, Inc. 6/75
27. Socio-Economic Impact Study of Oil Shale Development in the Uintah Basin by WEAI. 11/75
28. White River Dam Project EIS by BLM/DOI/5/82
29. Uintah Basin Public Safety Study by Tom Smith. 3/82
30. Utah Airport System Plan Update. UDOT 4/81





## APPENDIX



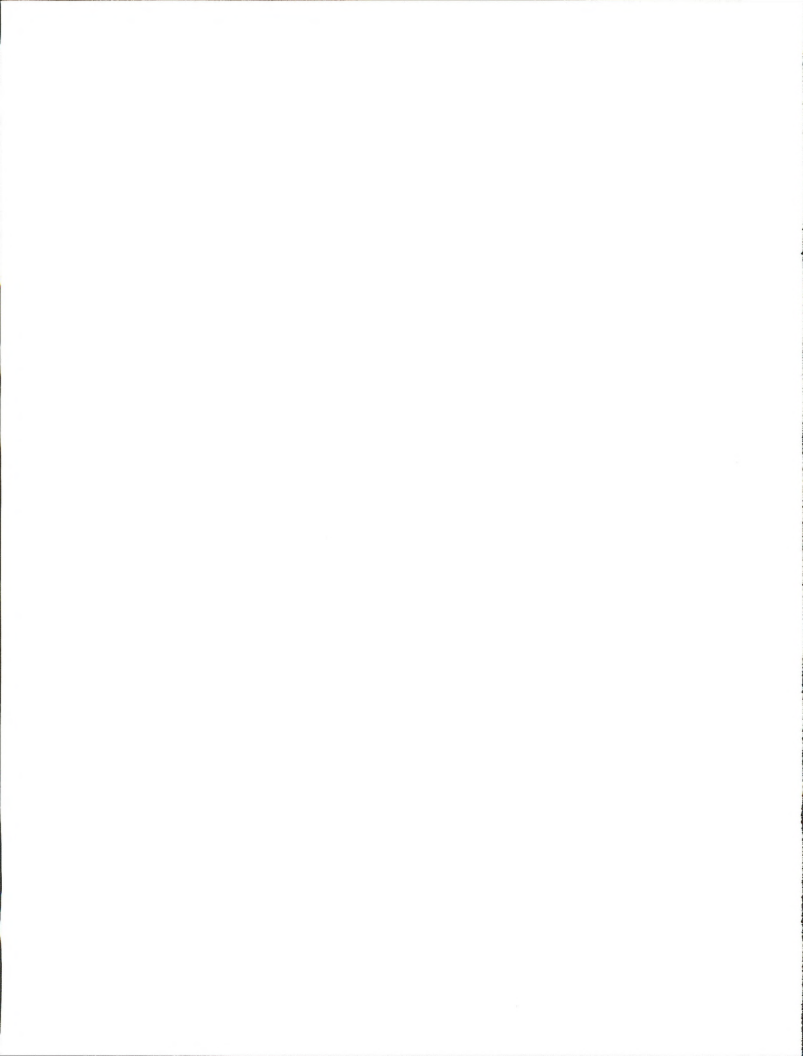


APPENDIX A  
DAGGETT COUNTY

1980 Population and Household Characteristics

and

Baseline Projections



## DAGGETT COUNTY

### POPULATION CHARACTERISTICS BASED ON THE 1980 CENSUS

Daggett County has a population of 769. Of these, none are minorities. 71% of the population lives in the West Daggett Division and most of these live within the limits of Manila Town (35%). There are 10% more males than females. Preschoolers account for 13.6% of the total population while School children age 5-17 account for 24% of the population. The work force, ages 18-64 account for 54% of the population and the 65 and over group has only 7.6% of the total population.

### BASELINE PROJECTIONS

The baseline projection for Daggett County shows a population increase from 769 in 1980 to 923 in the year 2000. The annual growth is about 1.5% the first ten year and less than 1% the next ten years. The average annual growth rates for each five-year period are provided in Table 6. Basic employment is projected to grow slowly in Daggett County. As population increases, residentiary employment is also projected to increase. Total employment is projected to increase at an annual rate of .8%. The primary employment sectors of the Daggett County economy are government, contract construction, wholesale and retail trade, and agriculture. Through the projection period no major changes in that structure are anticipated. Agriculture, however, is projected to decline slightly and non-farm proprietorship employment is projected to increase slightly relative to total employment.

TABLE A-1  
DAGGETT COUNTY  
Baseline Projections<sup>1</sup>

YEARS	POPULATION	BASIC EMPLOYMENT	TOTAL EMPLOYMENT <sup>2</sup>
1980	769	300	368
1981	770	302	373
1982	785	302	379
1983	796	304	383
1984	810	306	388
1985	823	307	393
1986	838	309	397
1987	851	310	400
1988	864	311	404
1989	877	313	408
1990	888	315	411
1991	901	317	414
1992	909	318	416
1993	914	320	418
1994	918	321	420
1995	920	323	422
1996	922	326	424
1997	921	328	426
1998	922	321	428
1999	923	333	431
2000	923	336	433

<sup>1</sup>Projections from JPED and SAM models, Utah State Planning Coordinator Office and Bureau of Economic and Business Research, University of Utah, 1982.

<sup>2</sup>Total employment is the sum of basic and residentiary.

TABLE A-2  
DAGGETT COUNTY  
Baseline Employment

Sector	-----1980-----		-----1986-----		-----1993-----	
	Total Employment	% of Total	Total Employment	% of Total	Total Employment	% of Total
Agriculture	35	9.5%	31	7.8%	27	6.4%
Mining	5	1.4	8	2.0	9	2.2
Contract						
Construction	52	14.1	53	13.4	55	13.1
Manufacturing	0	0	0	0	0	0
Transp., Commun., & Utilities	9	2.5	9	2.3	9	2.2
Wholesale	49	13.3	52	13.1	53	12.7
Finance	1	.3	1	.3	1	.2
Services	8	2.2	8	2.0	8	1.9
Government	186	50.5	207	52.3	225	53.7
Non-Farm	23	6.3	27	6.8	32	7.6
C.U.P.	0	0	0	0	0	0
Bon	0	0	0	0	0	0
<hr/>						
TOTAL	368	100.0%	346	100.0%	419	100.0%

TABLE A-3

DAGGETT COUNTY  
Population by Age

AGE	YEAR	1986	1993	2000
0-4		126	117	107
5-9		104	119	100
10-14		79	107	106
15-19		57	78	95
20-24		62	55	71
25-29		73	54	52
30-34		77	68	42
35-39		57	73	54
40-44		41	58	64
45-49		34	43	60
50-54		28	35	44
55-59		25	27	34
60-64		22	24	27
65-69		17	20	22
70-74		14	15	18
75-79		9	11	13
80-84		5	7	8
85 +		3	3	5
TOTAL		838	914	923

## SCHOOL-AGE POPULATION

5-14	183	226	206
15-17	37	53	64

## Population Over 65 Years

Over 65	48	56	66
---------	----	----	----

TABLE A-4  
Baseline Project on  
West Daggett Census County Division  
Daggett County

Years	Population	Basic Employment	Total* Employment
1980	543	173	236
1981	551	175	241
1982	565	178	247
1983	578	178	251
1984	589	180	256
1985	602	181	261
1986	615	183	265
1987	627	185	268
1988	639	186	272
1989	651	188	276
1990	661	190	279
1991	673	192	282
1992	681	193	285
1993	686	195	287
1994	690	197	289
1995	693	199	291
1996	695	201	293
1997	695	203	294
1998	696	205	196
1999	697	207	298
2000	698	209	300

\* Total employment includes both basin employment and residientary employment.



TABLE A-5  
Baseline Project on  
East Daggett Census County Division  
Daggett County

Years	Population	Basic Employment	Total* Employment
1980	221	127	132
1981	219	127	132
1982	220	126	132
1983	220	126	132
1984	221	126	132
1985	221	126	132
1986	223	126	132
1987	224	125	132
1988	225	125	132
1989	226	125	132
1990	227	125	132
1991	228	125	132
1992	228	125	131
1993	228	125	131
1994	228	124	131
1995	227	124	131
1996	227	125	131
1997	226	125	132
1998	226	126	132
1999	226	126	133
2000	225	127	133

\* Total employment includes both basin employment and residuary employment.

DAGGETT COUNTY

DAGGETT COUNTY 009

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	10	17	27	2.59	4.44	3.51
1 and 2 years	23	20	43	5.96	5.22	5.59
3 and 4 years	14	21	35	3.63	5.48	4.55
5 years	8	13	21	2.07	3.39	2.73
6 years	8	9	17	2.07	2.35	2.21
7 to 9 years	23	22	45	5.96	5.74	5.85
10 to 13 years	25	27	52	6.48	7.05	6.76
14 years	10	7	17	2.59	1.83	2.21
15 years	6	7	13	1.55	1.83	1.69
16 years	5	1	6	1.30	.26	.78
17 years	7	8	15	1.81	2.09	1.95
18 years	5	7	12	1.30	1.83	1.56
19 years	8	4	12	2.07	1.04	1.56
20 years	9	8	17	2.33	2.09	2.21
21 years	2	6	8	.52	1.57	1.04
22 to 24 years	20	18	38	5.18	4.70	4.94
25 to 29 years	45	36	81	11.66	9.40	10.53
30 to 34 years	25	38	63	6.48	9.92	8.19
35 to 44 years	46	34	80	11.92	8.88	10.40
45 to 54 years	33	29	62	8.55	7.57	8.06
55 to 59 years	12	13	25	3.11	3.39	3.25
60 and 61 years	6	8	14	1.55	2.09	1.82
62 to 64 years	6	4	10	1.55	1.04	1.30
65 to 74 years	23	18	41	5.96	4.70	5.33
75 to 84 years	7	7	14	1.81	1.83	1.82
85 years and over		1	1	.00	.26	.13
TOTAL	386	383	769	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	105				105
5 to 17 years	186				186
18 to 64 years	420				422
65 years and over	56				56
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	99.53	.00	.00	.00	.00
65 years and over	.00	.00	.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

EAST DAGGETT DIVISION

DAGGETT COUNTY 009

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	4	5	9	3.54	4.63	4.07
1 and 2 years	6	3	9	5.31	2.78	4.07
3 and 4 years	4	8	12	3.54	7.41	5.43
5 years	5	6	11	4.42	5.56	4.98
6 years	2	2	4	1.77	1.85	1.81
7 to 9 years	6	10	16	5.31	9.26	7.24
10 to 13 years	8	10	18	7.08	9.26	8.14
14 years	5		5	4.42	.00	2.26
15 years	1	3	4	.88	2.78	1.81
16 years	1		1	.88	.00	.45
17 years	1	3	4	.88	2.78	1.81
18 years	2		2	1.77	.00	.90
19 years	1		1	.88	.00	.45
20 years	5	1	6	4.42	.93	2.71
21 years		4	4	.00	3.70	1.81
22 to 24 years	3	4	7	2.65	3.70	3.17
25 to 29 years	18	9	27	15.93	8.33	12.22
30 to 34 years	5	16	21	4.42	14.81	9.50
35 to 44 years	18	10	28	15.93	9.26	12.67
45 to 54 years	10	8	18	8.85	7.41	8.14
55 to 59 years		3	3	.00	2.78	1.36
60 and 61 years	2	1	3	1.77	.93	1.36
62 to 64 years				.00	.00	.00
65 to 74 years	5	2	7	4.42	1.85	3.17
75 to 84 years	1		1	.88	.00	.45
85 years and over				.00	.00	.00
TOTAL	113	108	221	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	30				30
5 to 17 years	63				63
18 to 64 years	118				120
65 years and over	8				8
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	98.33	.00	.00	.00	.00
65 years and over	.00	.00	.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

WEST DAGGETT DIVISION

DAGGETT COUNTY 009

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	6	12	18	2.20	4.36	3.28
1 and 2 years	17	17	34	6.23	6.18	6.20
3 and 4 years	10	13	23	3.66	4.73	4.20
5 years	3	7	10	1.10	2.55	1.82
6 years	6	7	13	2.20	2.55	2.37
7 to 9 years	17	12	29	6.23	4.36	5.29
10 to 13 years	17	17	34	6.23	6.18	6.20
14 years	5	7	12	1.83	2.55	2.19
15 years	5	4	9	1.83	1.45	1.64
16 years	4	1	5	1.47	.36	.91
17 years	6	5	11	2.20	1.82	2.01
18 years	3	7	10	1.10	2.55	1.82
19 years	7	4	11	2.56	1.45	2.01
20 years	4	7	11	1.47	2.55	2.01
21 years	2	2	4	.73	.73	.73
22 to 24 years	17	14	31	6.23	5.09	5.66
25 to 29 years	27	27	54	9.89	9.82	9.85
30 to 34 years	20	22	42	7.33	8.00	7.66
35 to 44 years	28	24	52	10.26	8.73	9.49
45 to 54 years	23	21	44	8.42	7.64	8.03
55 to 59 years	12	10	22	4.40	3.64	4.01
60 and 61 years	4	7	11	1.47	2.55	2.01
62 to 64 years	6	4	10	2.20	1.45	1.82
65 to 74 years	18	16	34	6.59	5.82	6.20
75 to 84 years	6	7	13	2.20	2.55	2.37
85 years and over		1	1	.00	.36	.18
TOTAL	273	275	548	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	75				75
5 to 17 years	123				123
18 to 64 years	302				302
65 years and over	48				48
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	.00	.00	.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

MANILA TOWN

DAGGETT COUNTY 009

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	
Under 1 year	2	7	9	1.45	5.22	3.31
1 and 2 years	8	7	15	5.80	5.22	5.51
3 and 4 years	4	6	10	2.90	4.48	3.68
5 years		5	5	.00	3.73	1.84
6 years	5	5	10	3.62	3.73	3.68
7 to 9 years	5	5	10	3.62	3.73	3.68
10 to 13 years	11	8	19	7.97	5.97	6.99
14 years	3	2	5	2.17	1.49	1.84
15 years	3	2	5	2.17	1.49	1.84
16 years	2		2	1.45	.00	.74
17 years	6	1	7	4.35	.75	2.57
18 years	2	1	3	1.45	.75	1.10
19 years	5	2	7	3.62	1.49	2.57
20 years	2	4	6	1.45	2.99	2.21
21 years	1	1	2	.72	.75	.74
22 to 24 years	10	5	15	7.25	3.73	5.51
25 to 29 years	10	13	23	7.25	9.70	8.46
30 to 34 years	11	12	23	7.97	8.96	8.46
35 to 44 years	13	9	22	9.42	6.72	8.09
45 to 54 years	8	11	19	5.80	8.21	6.99
55 to 59 years	8	7	15	5.80	5.22	5.51
60 and 61 years	2	4	6	1.45	2.99	2.21
62 to 64 years	5	4	9	3.62	2.99	3.31
65 to 74 years	9	8	17	6.52	5.97	6.25
75 to 84 years	3	4	7	2.17	2.99	2.57
85 years and over		1	1	.00	.75	.37
TOTAL	138	134	272	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	34				34
5 to 17 years	63				63
18 to 64 years	150				150
65 years and over	25				25
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	.00	.00	.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

REMAINDER OF WEST DAGGETT DIVISION DAGGETT COUNTY 009

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	4	5	9	2.96	3.55	3.25
1 and 2 years	9	10	19	6.67	7.09	6.88
3 and 4 years	6	7	13	4.44	4.96	4.71
5 years	3	2	5	2.22	1.42	1.81
6 years	1	2	3	.74	1.42	1.09
7 to 9 years	12	7	19	8.89	4.96	6.88
10 to 13 years	6	9	15	4.44	6.38	5.43
14 years	2	5	7	1.48	3.55	2.54
15 years	2	2	4	1.48	1.42	1.45
16 years	2	1	3	1.48	.71	1.09
17 years		4	4	.00	2.84	1.45
18 years	1	6	7	.74	4.26	2.54
19 years	2	2	4	1.48	1.42	1.45
20 years	2	3	5	1.48	2.13	1.81
21 years	1	1	2	.74	.71	.72
22 to 24 years	7	9	16	5.19	6.38	5.80
25 to 29 years	17	14	31	12.59	9.93	11.23
30 to 34 years	9	10	19	6.67	7.09	6.88
35 to 44 years	15	15	30	11.11	10.64	10.87
45 to 54 years	15	10	25	11.11	7.09	9.06
55 to 59 years	4	3	7	2.96	2.13	2.54
60 and 61 years	2	3	5	1.48	2.13	1.81
62 to 64 years	1		1	.74	.00	.36
65 to 74 years	9	8	17	6.67	5.67	6.16
75 to 84 years	3	3	6	2.22	2.13	2.17
85 years and over				.00	.00	.00
TOTAL	135	141	276	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	41				41
5 to 17 years	60				60
18 to 64 years	152				152
65 years and over	23				23
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	.00	.00	.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

STF 1A TAB16 DATE: 03/02/82 UTAH

PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS

Universe: Households

## DAGGETT COUNTY

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	39	15.98
MALE HOUSEHOLDER - - - - -	18	7.38
FEMALE HOUSEHOLDER - - - - -	21	8.61
2 OR MORE PERSONS: - - - - -	205	84.02
MARRIED-COUPLE FAMILY - - - - -	189	77.46
OTHER FAMILY: - - - - -	13	5.33
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	6	2.46
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	7	2.87
NONFAMILY HOUSEHOLD: - - - - -	3	1.23
MALE HOUSEHOLDER - - - - -	3	1.23
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	244	

## EAST DAGGETT DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	9	13.85
MALE HOUSEHOLDER - - - - -	7	10.77
FEMALE HOUSEHOLDER - - - - -	2	3.08
2 OR MORE PERSONS: - - - - -	56	86.15
MARRIED-COUPLE FAMILY - - - - -	53	81.54
OTHER FAMILY: - - - - -	3	4.62
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	2	3.08
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	1	1.54
NONFAMILY HOUSEHOLD: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	65	

STF 1A TAB16 DATE: 03/02/82 UTAH

PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS

Universe: Households

REMAINDER OF WEST DAGGETT DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	7	8.14
MALE HOUSEHOLDER - - - - -	3	3.49
FEMALE HOUSEHOLDER - - - - -	4	4.65
2 OR MORE PERSONS: - - - - -	79	91.86
MARRIED-COUPLE FAMILY - - - -	74	86.05
OTHER FAMILY: - - - - -	3	3.49
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -		.00
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	3	3.49
NONFAMILY HOUSEHOLD: - - - -	2	2.33
MALE HOUSEHOLDER - - - - -	2	2.33
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	86	



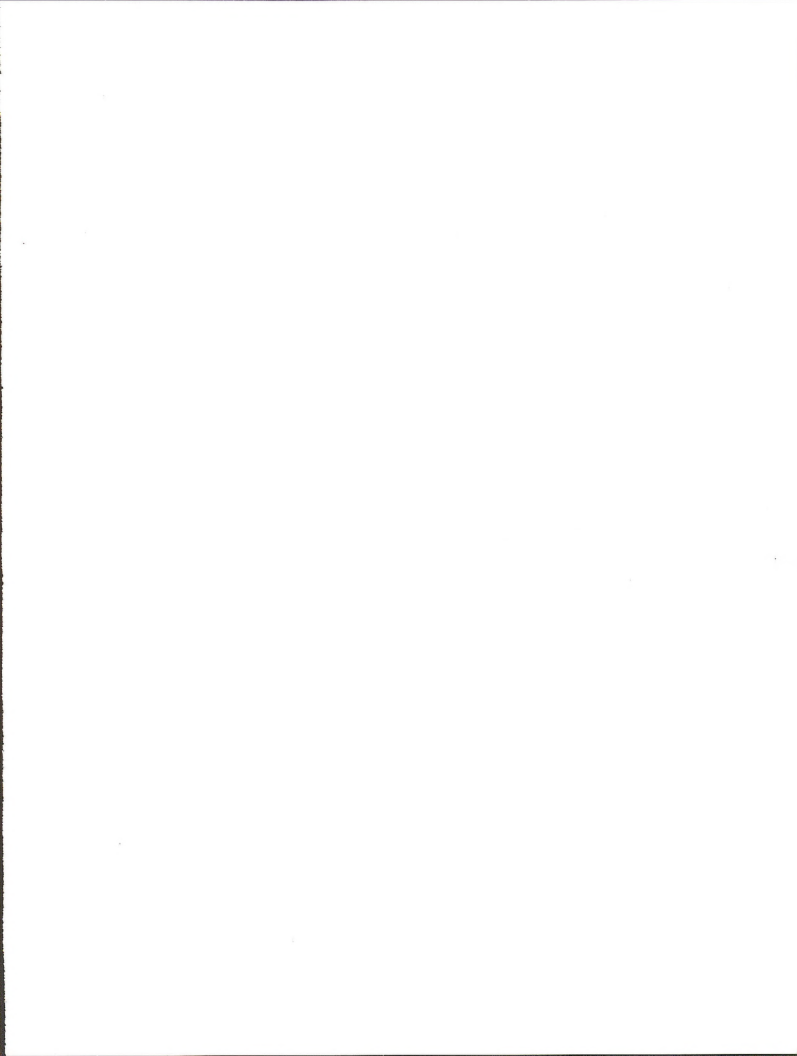
STF 1A TAB16 DATE: 03/02/82 UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS  
 Universe: Households

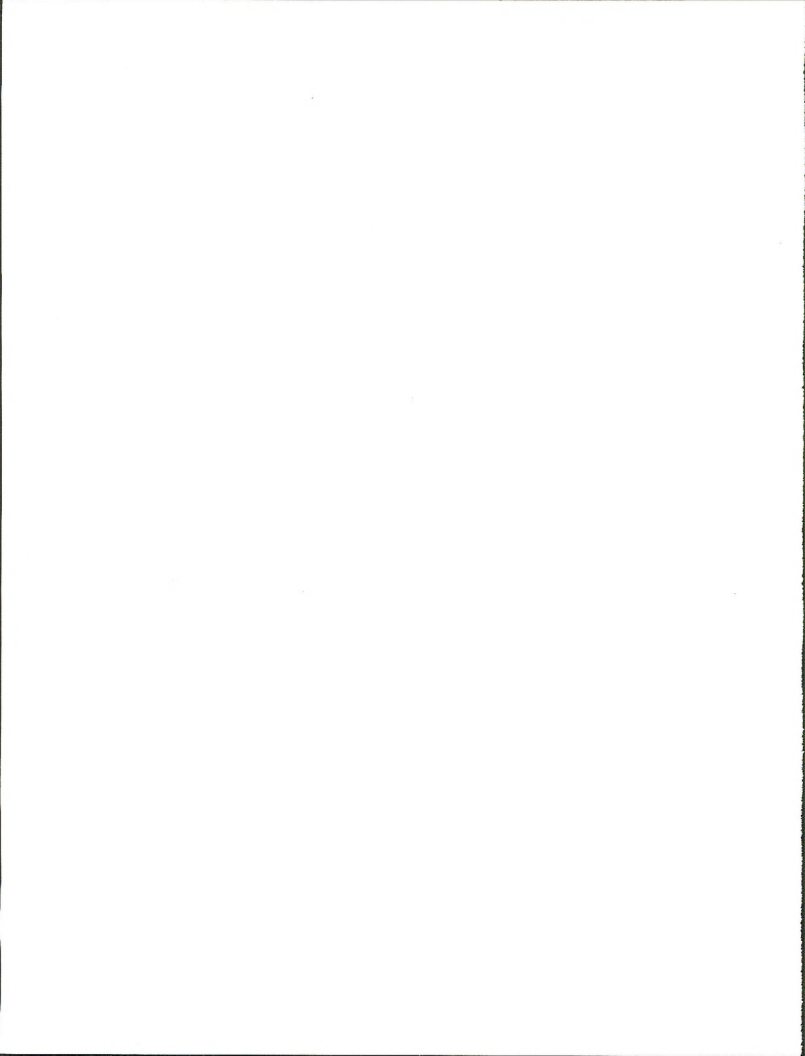
WEST DAGGETT DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	30	16.76
MALE HOUSEHOLDER - - - - -	11	6.15
FEMALE HOUSEHOLDER - - - - -	19	10.61
2 OR MORE PERSONS: - - - - -	149	83.24
MARRIED-COUPLE FAMILY - - - -	136	75.98
OTHER FAMILY: - - - - -	10	5.59
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -	4	2.23
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -	6	3.35
NONFAMILY HOUSEHOLD: - - - -	3	1.68
MALE HOUSEHOLDER - - - - -	3	1.68
FEMALE HOUSEHOLDER - - - -		.00
TOTAL HOUSEHOLDS - - - - -	179	

MANILA TOWN

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	23	24.73
MALE HOUSEHOLDER - - - - -	8	8.60
FEMALE HOUSEHOLDER - - - - -	15	16.13
2 OR MORE PERSONS: - - - - -	70	75.27
MARRIED-COUPLE FAMILY - - - -	62	66.67
OTHER FAMILY: - - - - -	7	7.53
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -	4	4.30
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -	3	3.23
NONFAMILY HOUSEHOLD: - - - -	1	1.08
MALE HOUSEHOLDER - - - - -	1	1.08
FEMALE HOUSEHOLDER - - - -		.00
TOTAL HOUSEHOLDS - - - - -	93	





APPENDIX B  
DUCHESNE COUNTY

1980 Population and Household Characteristics

1980 Census

STF1.1980.TABLES 10,12.  
RUN ON 02/22/82

1980 CENSUS

DUCHESNE COUNTY

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	218	180	398	3.41	2.91	3.17
1 and 2 years	382	363	745	5.98	5.87	5.93
3 and 4 years	366	346	712	5.73	5.60	5.67
5 years	167	172	339	2.62	2.78	2.70
6 years	174	148	322	2.72	2.40	2.56
7 to 9 years	457	430	887	7.16	6.96	7.06
10 to 13 years	523	498	1021	8.19	8.06	8.13
14 years	117	112	229	1.83	1.81	1.82
15 years	112	132	244	1.75	2.14	1.94
16 years	149	128	277	2.33	2.07	2.20
17 years	144	132	276	2.25	2.14	2.20
18 years	113	109	222	1.77	1.76	1.77
19 years	102	108	210	1.60	1.75	1.67
20 years	106	91	197	1.66	1.47	1.57
21 years	95	102	197	1.49	1.65	1.57
22 to 24 years	339	330	669	5.31	5.34	5.32
25 to 29 years	490	479	969	7.67	7.75	7.71
30 to 34 years	450	436	886	7.05	7.06	7.05
35 to 44 years	642	649	1291	10.05	10.50	10.27
45 to 54 years	447	431	878	7.00	6.98	6.99
55 to 59 years	199	198	397	3.12	3.20	3.16
60 and 61 years	79	63	142	1.24	1.02	1.13
62 to 64 years	101	105	206	1.58	1.70	1.64
65 to 74 years	282	281	563	4.42	4.55	4.48
75 to 84 years	116	117	233	1.82	1.89	1.85
85 years and over	16	39	55	.25	.63	.44
TOTAL	6386	6179	12565	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	1792		40	10	1855
5 to 17 years	3469		96	6	3595
18 to 64 years	6082		139	13	6264
65 years and over	832		17		851
PERCENT OF PERSONS *					
Under 5 years	96.60	.00	2.16	.54	.00
5 to 17 years	96.50	.00	2.67	.17	.00
18 to 64 years	97.09	.00	2.22	.21	.00
65 years and over	97.77	.00	2.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

STF1.1980.TABLES 10,12.  
RUN ON 02/22/82

1980 CENSUS

DUCHESNE DIVISION

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	
Under 1 year	46	37	83	3.11	2.74	2.93
1 and 2 years	85	78	163	5.74	5.79	5.76
3 and 4 years	77	70	147	5.20	5.19	5.20
5 years	36	35	71	2.43	2.60	2.51
6 years	40	27	67	2.70	2.00	2.37
7 to 9 years	119	98	217	8.04	7.27	7.67
10 to 13 years	118	116	234	7.97	8.61	8.27
14 years	29	27	56	1.96	2.00	1.98
15 years	31	32	63	2.09	2.37	2.23
16 years	36	30	66	2.43	2.23	2.33
17 years	41	29	70	2.77	2.15	2.47
18 years	24	20	44	1.62	1.48	1.56
19 years	32	25	57	2.16	1.85	2.01
20 years	22	16	38	1.49	1.19	1.34
21 years	26	25	51	1.76	1.85	1.80
22 to 24 years	69	61	130	4.66	4.53	4.60
25 to 29 years	110	109	219	7.43	8.09	7.74
30 to 34 years	91	109	200	6.14	8.09	7.07
35 to 44 years	153	152	305	10.33	11.28	10.78
45 to 54 years	121	102	223	8.17	7.57	7.88
55 to 59 years	47	41	88	3.17	3.04	3.11
60 and 61 years	18	7	25	1.22	.52	.88
62 to 64 years	25	21	46	1.69	1.56	1.63
65 to 74 years	55	59	114	3.71	4.38	4.03
75 to 84 years	29	19	48	1.96	1.41	1.70
85 years and over	1	3	4	.07	.22	.14
TOTAL	1481	1348	2829	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	386		3		393
5 to 17 years	828		12		844
18 to 64 years	1401		14		1426
65 years and over	166				166
PERCENT OF PERSONS *					
Under 5 years	98.22	.00	.76	.00	.00
5 to 17 years	98.10	.00	1.42	.00	.00
18 to 64 years	98.25	.00	.98	.00	.00
65 years and over	97.77	.00	2.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

DUCHESNE CITY

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	26	24	50	2.97	2.99	2.98
1 and 2 years	52	44	96	5.94	5.49	5.72
3 and 4 years	44	41	85	5.03	5.11	5.07
5 years	22	25	47	2.51	3.12	2.80
6 years	26	15	41	2.97	1.87	2.44
7 to 9 years	77	55	132	8.80	6.86	7.87
10 to 13 years	65	64	129	7.43	7.98	7.69
14 years	15	11	26	1.71	1.37	1.55
15 years	16	22	38	1.83	2.74	2.27
16 years	20	18	38	2.29	2.24	2.27
17 years	23	24	47	2.63	2.99	2.80
18 years	13	11	24	1.49	1.37	1.43
19 years	22	13	35	2.51	1.62	2.09
20 years	19	12	31	2.17	1.50	1.85
21 years	17	19	36	1.94	2.37	2.15
22 to 24 years	49	41	90	5.60	5.11	5.37
25 to 29 years	79	70	149	9.03	8.73	8.88
30 to 34 years	50	57	107	5.71	7.11	6.38
35 to 44 years	86	93	179	9.83	11.60	10.67
45 to 54 years	68	63	131	7.77	7.86	7.81
55 to 59 years	26	22	48	2.97	2.74	2.86
60 and 61 years	10	4	14	1.14	.50	.83
62 to 64 years	12	11	23	1.37	1.37	1.37
65 to 74 years	24	27	51	2.74	3.37	3.04
75 to 84 years	13	13	26	1.49	1.62	1.55
85 years and over	1	3	4	.11	.37	.24
TOTAL	875	802	1677	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	225		3		231
5 to 17 years	490		4		498
18 to 64 years	849		11		867
65 years and over	81				81
PERCENT OF PERSONS *					
Under 5 years	97.40	.00	1.30	.00	.00
5 to 17 years	98.39	.00	.80	.00	.00
18 to 64 years	97.92	.00	1.27	.00	.00
65 years and over	97.77	.00	2.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

TABIONA TOWN

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	5	2	7	6.10	2.86	4.61
1 and 2 years	3	2	5	3.66	2.86	3.29
3 and 4 years	6	3	9	7.32	4.29	5.92
5 years	2	1	3	2.44	1.43	1.97
6 years	2	2	4	2.44	2.86	2.63
7 to 9 years	6	3	9	7.32	4.29	5.92
10 to 13 years	5	7	12	6.10	10.00	7.89
14 years	2	3	5	2.44	4.29	3.29
15 years	3	2	5	3.66	2.86	3.29
16 years	4		4	4.88	.00	2.63
17 years	3		3	3.66	.00	1.97
18 years				.00	.00	.00
19 years	1		1	1.22	.00	.66
20 years				.00	.00	.00
21 years	1		1	1.22	.00	.66
22 to 24 years	2	4	6	2.44	5.71	3.95
25 to 29 years	6	7	13	7.32	10.00	8.55
30 to 34 years	7	7	14	8.54	10.00	9.21
35 to 44 years	7	8	15	8.54	11.43	9.87
45 to 54 years	4	4	8	4.88	5.71	5.26
55 to 59 years	2	5	7	2.44	7.14	4.61
60 and 61 years	2		2	2.44	.00	1.32
62 to 64 years	2		2	2.44	.00	1.32
65 to 74 years	3	7	10	3.66	10.00	6.58
75 to 84 years	4	3	7	4.88	4.29	4.61
85 years and over				.00	.00	.00
TOTAL	82	70	152	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years					21
5 to 17 years					45
18 to 64 years					69
65 years and over					17
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	97.77	.00	2.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING



REMAINDER OF DUCHESNE DIVISION

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	15	11	26	2.86	2.31	2.60
1 and 2 years	30	32	62	5.73	6.72	6.20
3 and 4 years	27	26	53	5.15	5.46	5.30
5 years	12	9	21	2.29	1.89	2.10
6 years	12	10	22	2.29	2.10	2.20
7 to 9 years	36	40	76	6.87	8.40	7.60
10 to 13 years	48	45	93	9.16	9.45	9.30
14 years	12	13	25	2.29	2.73	2.50
15 years	12	8	20	2.29	1.68	2.00
16 years	12	12	24	2.29	2.52	2.40
17 years	15	5	20	2.86	1.05	2.00
18 years	11	9	20	2.10	1.89	2.00
19 years	9	12	21	1.72	2.52	2.10
20 years	3	4	7	.57	.84	.70
21 years	8	6	14	1.53	1.26	1.40
22 to 24 years	18	16	34	3.44	3.36	3.40
25 to 29 years	25	32	57	4.77	6.72	5.70
30 to 34 years	34	45	79	6.49	9.45	7.90
35 to 44 years	60	51	111	11.45	10.71	11.10
45 to 54 years	49	35	84	9.35	7.35	8.40
55 to 59 years	19	14	33	3.63	2.94	3.30
60 and 61 years	6	3	9	1.15	.63	.90
62 to 64 years	11	10	21	2.10	2.10	2.10
65 to 74 years	28	25	53	5.34	5.25	5.30
75 to 84 years	12	3	15	2.29	.63	1.50
85 years and over				.00	.00	.00
TOTAL	524	476	1000	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	141				141
5 to 17 years	293				301
18 to 64 years	483				490
65 years and over	68				68
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	97.34	.00	.00	.00	.00
18 to 64 years	98.57	.00	.00	.00	.00
65 years and over	97.77	.00	2.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

NORTH DUCHESNE DIVISION

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year				.00	.00	.00
1 and 2 years				.00	.00	.00
3 and 4 years				.00	.00	.00
5 years				.00	.00	.00
6 years				.00	.00	.00
7 to 9 years				.00	.00	.00
10 to 13 years				.00	.00	.00
14 years				.00	.00	.00
15 years				.00	.00	.00
16 years				.00	.00	.00
17 years				.00	.00	.00
18 years				.00	.00	.00
19 years				.00	.00	.00
20 years				.00	.00	.00
21 years				.00	.00	.00
22 to 24 years				.00	.00	.00
25 to 29 years				.00	.00	.00
30 to 34 years				.00	.00	.00
35 to 44 years				.00	.00	.00
45 to 54 years				.00	.00	.00
55 to 59 years				.00	.00	.00
60 and 64 years				.00	.00	.00
62 to 64 years				.00	.00	.00
65 to 74 years				.00	.00	.00
75 to 84 years				.00	.00	.00
85 years and over				.00	.00	.00
TOTAL				100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years					
5 to 17 years					
18 to 64 years					
65 years and over					
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	.00	.00	.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

ROOSEVELT DIVISION

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	172	143	315	3.52	2.96	3.24
1 and 2 years	296	284	580	6.05	5.89	5.97
3 and 4 years	289	276	565	5.91	5.72	5.82
5 years	131	137	268	2.68	2.84	2.76
6 years	134	121	255	2.74	2.51	2.63
7 to 9 years	337	332	669	6.89	6.88	6.89
10 to 13 years	403	382	785	8.24	7.92	8.08
14 years	88	84	172	1.80	1.74	1.77
15 years	81	99	180	1.66	2.05	1.85
16 years	113	98	211	2.31	2.03	2.17
17 years	102	103	205	2.09	2.14	2.11
18 years	89	89	178	1.82	1.84	1.83
19 years	70	83	153	1.43	1.72	1.58
20 years	84	75	159	1.72	1.55	1.64
21 years	69	77	146	1.41	1.60	1.50
22 to 24 years	269	268	537	5.50	5.56	5.53
25 to 29 years	376	369	745	7.69	7.65	7.67
30 to 34 years	388	327	685	7.32	6.78	7.05
35 to 44 years	488	496	984	9.98	10.28	10.13
45 to 54 years	324	328	652	6.63	6.80	6.71
55 to 59 years	152	157	309	3.11	3.25	3.18
60 and 61 years	61	56	117	1.25	1.16	1.20
62 to 64 years	76	84	160	1.55	1.74	1.65
65 to 74 years	226	222	448	4.62	4.60	4.61
75 to 84 years	87	98	185	1.78	2.03	1.90
85 years and over	15	36	51	.31	.75	.53
TOTAL	4890	4824	9714	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	1404		37	10	1460
5 to 17 years	2635		84	5	2745
18 to 64 years	4668		125	12	4825
65 years and over	665		17		684
PERCENT OF PERSONS *					
Under 5 years	96.16	.00	2.53	.68	.00
5 to 17 years	95.99	.00	3.06	.18	.00
18 to 64 years	96.75	.00	2.59	.25	.00
65 years and over	97.22	.00	2.49	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

ALTA MONT TOWN

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	2	1	3	1.71	.77	1.21
1 and 2 years	8	8	16	6.84	6.15	6.48
3 and 4 years	7	7	14	5.98	5.38	5.67
5 years	3	4	7	2.56	3.08	2.83
6 years	3	2	5	2.56	1.54	2.02
7 to 9 years	11	13	24	9.40	10.00	9.72
10 to 13 years	2	9	11	1.71	6.92	4.45
14 years		3	3	.00	2.31	1.21
15 years	2	1	3	1.71	.77	1.21
16 years	2	4	6	1.71	3.08	2.43
17 years	2	4	6	1.71	3.08	2.43
18 years				.00	.00	.00
19 years	2	2	4	1.71	1.54	1.62
20 years	1	2	3	.85	1.54	1.21
21 years	4		4	3.42	.00	1.62
22 to 24 years	8	10	18	6.84	7.69	7.29
25 to 29 years	14	14	28	11.97	10.77	11.34
30 to 34 years	10	8	18	8.55	6.15	7.29
35 to 44 years	11	13	24	9.40	10.00	9.72
45 to 54 years	5	4	9	4.27	3.08	3.64
55 to 59 years	2	5	7	1.71	3.85	2.83
60 and 61 years	3	2	5	2.56	1.54	2.02
62 to 64 years	3		3	2.56	.00	1.21
65 to 74 years	6	10	16	5.13	7.69	6.48
75 to 84 years	6	3	9	5.13	2.31	3.64
85 years and over		1	1	.00	.77	.40
TOTAL	117	130	247	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	31				33
5 to 17 years	60				65
18 to 64 years	119				123
65 years and over	26				26
PERCENT OF PERSONS *					
Under 5 years	93.94	.00	.00	.00	.00
5 to 17 years	92.31	.00	.00	.00	.00
18 to 64 years	96.75	.00	.00	.00	.00
65 years and over	97.22	.00	2.49	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

MYTON CITY

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	15	7	22	5.95	2.82	4.40
1 and 2 years	14	12	26	5.56	4.84	5.20
3 and 4 years	12	15	27	4.76	6.05	5.40
5 years	6	4	10	2.38	1.61	2.00
6 years	9	4	13	3.57	1.61	2.60
7 to 9 years	14	18	32	5.56	7.26	6.40
10 to 13 years	16	21	37	6.35	8.47	7.40
14 years	7	4	11	2.78	1.61	2.20
15 years	6	3	9	2.38	1.21	1.80
16 years	9	8	17	3.57	3.23	3.40
17 years	3	11	14	1.19	4.44	2.80
18 years	2	4	6	.79	1.61	1.20
19 years	4	5	9	1.59	2.02	1.80
20 years	5	3	8	1.98	1.21	1.60
21 years	5	4	9	1.98	1.61	1.80
22 to 24 years	15	13	28	5.95	5.24	5.60
25 to 29 years	16	20	36	6.35	8.05	7.20
30 to 34 years	16	18	34	6.35	7.26	6.80
35 to 44 years	25	21	46	9.92	8.47	9.20
45 to 54 years	11	15	26	4.37	6.05	5.20
55 to 59 years	10	10	20	3.97	4.03	4.00
60 and 61 years	3	5	8	1.19	2.02	1.60
62 to 64 years	6	3	9	2.38	1.21	1.80
65 to 74 years	12	15	27	4.76	6.05	5.40
75 to 84 years	9	5	14	3.57	2.02	2.80
85 years and over	2		2	.79	.00	.40
TOTAL	252	248	500	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	67		3		75
5 to 17 years	121		18		143
18 to 64 years	222		14		239
65 years and over	43				43
PERCENT OF PERSONS *					
Under 5 years	89.33	.00	4.00	.00	.00
5 to 17 years	84.62	.00	12.59	.00	.00
18 to 64 years	92.89	.00	5.86	.00	.00
65 years and over	97.22	.00	2.49	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

ROOSEVELT CITY

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	63	62	125	3.29	3.22	3.25
1 and 2 years	124	129	253	6.48	6.69	6.59
3 and 4 years	129	113	242	6.74	5.86	6.30
5 years	53	57	110	2.77	2.96	2.86
6 years	51	49	100	2.66	2.54	2.60
7 to 9 years	125	111	236	6.53	5.76	6.14
10 to 13 years	145	136	281	7.57	7.06	7.31
14 years	30	23	53	1.57	1.19	1.38
15 years	34	29	63	1.78	1.50	1.64
16 years	32	28	60	1.57	1.45	1.55
17 years	41	32	73	2.14	1.66	1.90
18 years	26	33	59	1.36	1.71	1.54
19 years	24	38	62	1.25	1.97	1.61
20 years	33	33	66	1.72	1.71	1.72
21 years	31	31	62	1.62	1.61	1.61
22 to 24 years	118	131	249	6.16	6.80	6.48
25 to 29 years	181	178	359	9.45	9.24	9.34
30 to 34 years	174	144	318	9.09	7.47	8.28
35 to 44 years	165	167	332	8.62	8.67	8.64
45 to 54 years	110	126	236	5.74	6.54	6.14
55 to 59 years	61	52	113	3.19	2.70	2.94
60 and 64 years	21	19	40	1.10	.99	1.04
65 to 69 years	22	39	61	1.15	2.02	1.59
70 to 74 years	81	90	171	4.23	4.67	4.45
75 to 84 years	33	51	84	1.72	2.65	2.19
85 years and over	8	26	34	.42	1.35	.88
TOTAL	1915	1927	3842	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	594		15	8	620
5 to 17 years	947		19	3	976
18 to 64 years	1898		41	8	1957
65 years and over	277		10		289
PERCENT OF PERSONS *					
Under 5 years	95.81	.00	2.42	1.29	.00
5 to 17 years	97.03	.00	1.95	.31	.00
18 to 64 years	96.99	.00	2.10	.41	.00
65 years and over	95.85	.00	3.46	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

REMAINDER OF ROOSEVELT DIVISION DUCHESNE COUNTY 013 STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	
Under 1 year	92	73	165	3.53	2.90	3.22
1 and 2 years	150	135	285	5.76	5.36	5.56
3 and 4 years	141	141	282	5.41	5.60	5.50
5 years	69	72	141	2.65	2.86	2.75
6 years	71	66	137	2.72	2.62	2.67
7 to 9 years	187	190	377	7.18	7.54	7.36
10 to 13 years	240	216	456	9.21	8.57	8.90
14 years	51	54	105	1.96	2.14	2.05
15 years	39	66	105	1.50	2.62	2.05
16 years	70	58	128	2.69	2.30	2.50
17 years	56	56	112	2.15	2.22	2.19
18 years	61	52	113	2.34	2.06	2.20
19 years	40	38	78	1.53	1.51	1.52
20 years	45	37	82	1.73	1.47	1.60
21 years	29	42	71	1.11	1.67	1.39
22 to 24 years	128	114	242	4.91	4.53	4.72
25 to 29 years	165	157	322	6.33	6.23	6.28
30 to 34 years	158	157	315	6.06	6.23	6.15
35 to 44 years	287	295	582	11.01	11.71	11.36
45 to 54 years	198	183	381	7.60	7.26	7.43
55 to 59 years	79	90	169	3.03	3.57	3.30
60 and 61 years	34	30	64	1.30	1.19	1.25
62 to 64 years	45	42	87	1.73	1.67	1.70
65 to 74 years	127	107	234	4.87	4.25	4.57
75 to 84 years	39	39	78	1.50	1.55	1.52
85 years and over	5	9	14	.19	.36	.27
TOTAL	2606	2519	5125	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	712		18		732
5 to 17 years	1507		47		1561
18 to 64 years	2429		69		2506
65 years and over	319		7		326
PERCENT OF PERSONS *					
Under 5 years	97.27	.00	2.46	.00	.00
5 to 17 years	96.54	.00	3.01	.00	.00
18 to 64 years	96.93	.00	2.75	.00	.00
65 years and over	95.85	.00	3.46	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

STF1.1980.TABLES 10,12.  
 RUN ON 02/22/82

1980 CENSUS

SOUTH DUCHESNE DIVISION

DUCHESNE COUNTY 013

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	
Under 1 year				.00	.00	.00
1 and 2 years				.00	.00	.00
3 and 4 years				.00	.00	.00
5 years				.00	.00	.00
6 years				.00	.00	.00
7 to 9 years				.00	.00	.00
10 to 13 years				.00	.00	.00
14 years				.00	.00	.00
15 years				.00	.00	.00
16 years				.00	.00	.00
17 years				.00	.00	.00
18 years				.00	.00	.00
19 years				.00	.00	.00
20 years				.00	.00	.00
21 years				.00	.00	.00
22 to 24 years				.00	.00	.00
25 to 29 years				.00	.00	.00
30 to 34 years				.00	.00	.00
35 to 44 years				.00	.00	.00
45 to 54 years				.00	.00	.00
55 to 59 years				.00	.00	.00
60 and 61 years				.00	.00	.00
62 to 64 years				.00	.00	.00
65 to 74 years				.00	.00	.00
75 to 84 years				.00	.00	.00
85 years and over				.00	.00	.00
TOTAL				100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years					
5 to 17 years					
18 to 64 years					
65 years and over					
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	.00	.00	.00	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING



STF 1A    TAB16    DATE: 03/02/82    UTAH

PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE    1980 CENSUS

Universe: Households

## DUCHESNE COUNTY

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	434	12.40
MALE HOUSEHOLDER - - - - -	213	6.09
FEMALE HOUSEHOLDER - - - - -	221	6.32
2 OR MORE PERSONS: - - - - -	3065	87.60
MARRIED-COUPLE FAMILY - - - -	2735	78.17
OTHER FAMILY: - - - - -	257	7.34
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	59	1.69
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	198	5.66
NONFAMILY HOUSEHOLD: - - - -	73	2.09
MALE HOUSEHOLDER - - - - -	54	1.54
FEMALE HOUSEHOLDER - - - -	19	.54
TOTAL HOUSEHOLDS - - - - -	3499	

## DUCHESNE DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	104	12.89
MALE HOUSEHOLDER - - - - -	59	7.31
FEMALE HOUSEHOLDER - - - - -	45	5.58
2 OR MORE PERSONS: - - - - -	703	87.11
MARRIED-COUPLE FAMILY - - - -	625	77.45
OTHER FAMILY: - - - - -	60	7.43
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	22	2.73
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	38	4.71
NONFAMILY HOUSEHOLD: - - - -	18	2.23
MALE HOUSEHOLDER - - - - -	14	1.73
FEMALE HOUSEHOLDER - - - -	4	.50
TOTAL HOUSEHOLDS - - - - -	807	

STF 1A TABLE DATE: 03/02/82 UTAH

PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS

Universe: Households

## DUCHESNE CITY

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	71	14.43
MALE HOUSEHOLDER - - - - -	39	7.93
FEMALE HOUSEHOLDER - - - - -	32	6.50
2 OR MORE PERSONS: - - - - -	421	85.57
MARRIED-COUPLE FAMILY - - - - -	365	74.19
OTHER FAMILY: - - - - -	40	8.13
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	13	2.64
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	27	5.49
NONFAMILY HOUSEHOLD: - - - - -	16	3.25
MALE HOUSEHOLDER - - - - -	12	2.44
FEMALE HOUSEHOLDER - - - - -	4	.81
TOTAL HOUSEHOLDS - - - - -	492	

## TABIONA TOWN

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	6	13.64
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -	6	13.64
2 OR MORE PERSONS: - - - - -	38	86.36
MARRIED-COUPLE FAMILY - - - - -	37	84.09
OTHER FAMILY: - - - - -	1	2.27
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -		.00
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	1	2.27
NONFAMILY HOUSEHOLD: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	44	

STF 1A TAB16 DATE: 03/02/82 UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS  
 Universe: Households

REMAINDER OF DUCHESNE DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	27	9.96
MALE HOUSEHOLDER - - - - -	20	7.38
FEMALE HOUSEHOLDER - - - - -	7	2.58
2 OR MORE PERSONS: - - - - -	244	90.04
MARRIED-COUPLE FAMILY - - - - -	223	82.29
OTHER FAMILY: - - - - -	19	7.01
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	9	3.32
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	10	3.69
NONFAMILY HOUSEHOLD: - - - - -	2	.74
MALE HOUSEHOLDER - - - - -	2	.74
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	271	

NORTH DUCHESNE DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
2 OR MORE PERSONS: - - - - -	1	.00
MARRIED-COUPLE FAMILY - - - - -		.00
OTHER FAMILY: - - - - -		.00
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -		.00
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -		.00
NONFAMILY HOUSEHOLD: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	1	

STF 1A    TAB16    DATE: 03/02/82    UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE    1980 CENSUS  
 Universe: Households

ROOSEVELT DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	329	12.25
MALE HOUSEHOLDER - - - - -	153	5.70
FEMALE HOUSEHOLDER - - - - -	176	6.55
2 OR MORE PERSONS: - - - - -	2357	87.75
MARRIED-COUPLE FAMILY - - - - -	2106	78.41
OTHER FAMILY: - - - - -	197	7.33
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	37	1.38
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	160	5.96
NONFAMILY HOUSEHOLD: - - - - -	54	2.01
MALE HOUSEHOLDER - - - - -	39	1.45
FEMALE HOUSEHOLDER - - - - -	15	.56
TOTAL HOUSEHOLDS - - - - -	2686	

ALTAMONT TOWN

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	11	14.29
MALE HOUSEHOLDER - - - - -	6	7.79
FEMALE HOUSEHOLDER - - - - -	5	6.49
2 OR MORE PERSONS: - - - - -	66	85.71
MARRIED-COUPLE FAMILY - - - - -	61	79.22
OTHER FAMILY: - - - - -	5	6.49
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	2	2.60
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	3	3.90
NONFAMILY HOUSEHOLD: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	77	

STF 1A    TAB16    DATE: 03/02/82    UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE    1980 CENSUS  
 Universe: Households

MYTON CITY

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	32	22.38
MALE HOUSEHOLDER - - - - -	14	9.79
FEMALE HOUSEHOLDER - - - - -	18	12.59
2 OR MORE PERSONS: - - - - -	111	77.62
MARRIED-COUPLE FAMILY - - - - -	98	68.53
OTHER FAMILY: - - - - -	13	9.09
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	4	2.80
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	9	6.29
NONFAMILY HOUSEHOLD: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	143	

ROOSEVELT CITY

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	166	14.65
MALE HOUSEHOLDER - - - - -	79	6.97
FEMALE HOUSEHOLDER - - - - -	87	7.68
2 OR MORE PERSONS: - - - - -	967	85.35
MARRIED-COUPLE FAMILY - - - - -	822	72.55
OTHER FAMILY: - - - - -	105	9.27
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	18	1.59
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	87	7.68
NONFAMILY HOUSEHOLD: - - - - -	40	3.53
MALE HOUSEHOLDER - - - - -	27	2.38
FEMALE HOUSEHOLDER - - - - -	13	1.15
TOTAL HOUSEHOLDS - - - - -	1133	

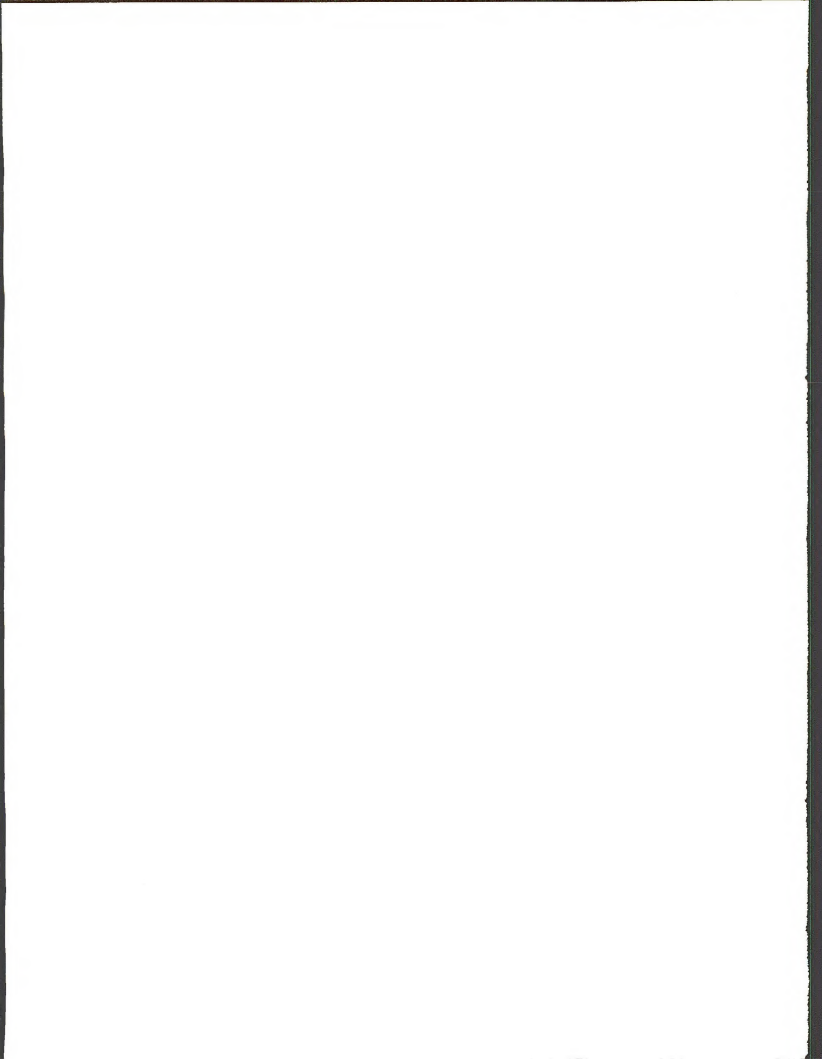
STF 1A TAB16 DATE: 03/02/82 UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS  
 Universe: Households

REMAINDER OF ROOSEVELT DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	120	9.00
MALE HOUSEHOLDER - - - - -	54	4.05
FEMALE HOUSEHOLDER - - - - -	66	4.95
2 OR MORE PERSONS: - - - - -	1213	91.00
MARRIED-COUPLE FAMILY - - - -	1125	84.40
OTHER FAMILY: - - - - -	74	5.55
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	13	.98
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	61	4.58
NONFAMILY HOUSEHOLD: - - - -	14	1.05
MALE HOUSEHOLDER - - - - -	12	.90
FEMALE HOUSEHOLDER - - - - -	2	.15
TOTAL HOUSEHOLDS - - - - -	1333	

SOUTH DUCHESNE DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
2 OR MORE PERSONS: - - - - -	1	.00
MARRIED-COUPLE FAMILY - - - -		.00
OTHER FAMILY: - - - - -		.00
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -		.00
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -		.00
NONFAMILY HOUSEHOLD: - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	1	

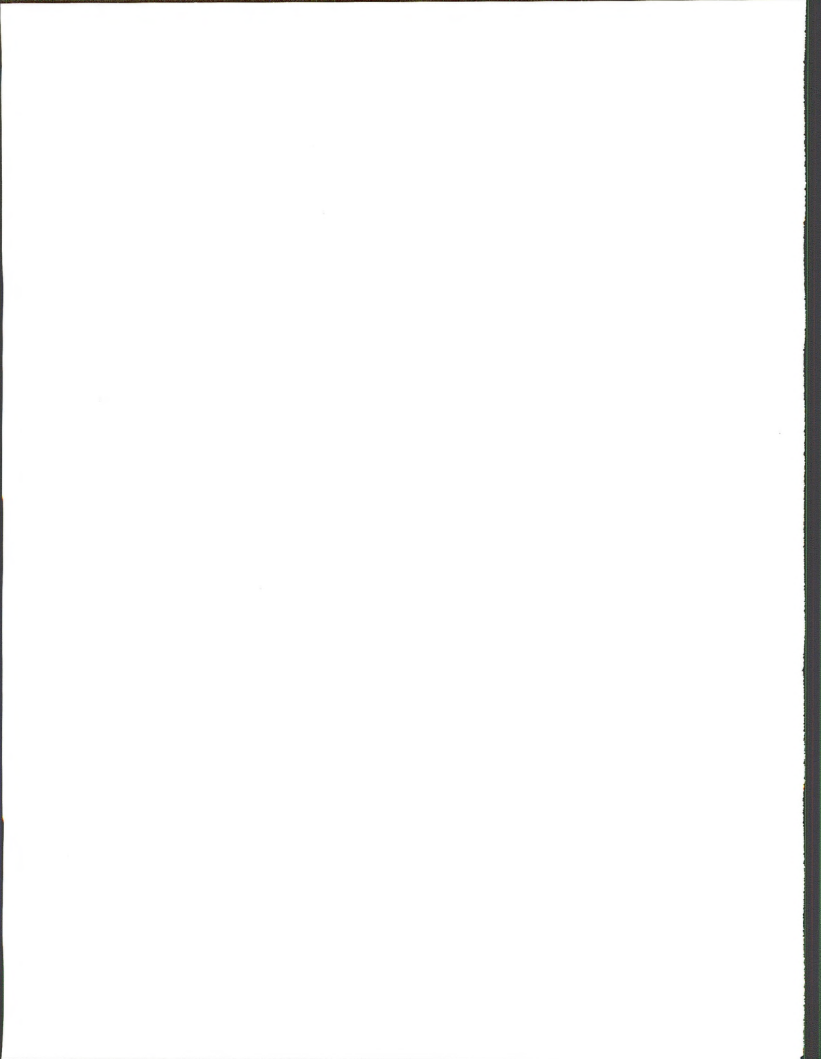


APPENDIX C  
GRAND COUNTY

1980 Population and Household Characteristics

1980 Census





STFl.1980.TABLES 10,12.  
RUN ON 02/22/82

1980 CENSUS

GREEN RIVER CITY

GRAND COUNTY 019

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	4		4	7.84	.00	4.35
1 and 2 years	2	1	3	3.92	2.44	3.26
3 and 4 years	4	1	5	7.84	2.44	5.43
5 years		2	2	.00	4.88	2.17
6 years	1	1	2	1.96	2.44	2.17
7 to 9 years	6	3	9	11.76	7.32	9.78
10 to 13 years	3	3	6	5.88	7.32	6.52
14 years				.00	.00	.00
15 years		2	2	.00	4.88	2.17
16 years	3		3	5.88	.00	3.26
17 years	2		2	3.92	.00	2.17
18 years				.00	.00	.00
19 years				.00	.00	.00
20 years	1	1	2	1.96	2.44	2.17
21 years	5	3	8	9.80	7.32	8.70
22 to 24 years	2	2	4	3.92	4.88	4.35
25 to 29 years	2	5	7	3.92	12.20	7.61
30 to 34 years	5	2	7	9.80	4.88	7.61
35 to 44 years	1	9	10	1.96	21.95	10.87
45 to 54 years	7	5	12	13.73	12.20	13.04
55 to 59 years		1	1	.00	2.44	1.09
60 and 61 years				.00	.00	.00
62 to 64 years	2		2	3.92	.00	2.17
65 to 74 years	1		1	1.96	.00	1.09
75 to 84 years				.00	.00	.00
85 years and over				.00	.00	.00
TOTAL	51	41	52	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years					12
5 to 17 years					26
18 to 64 years					53
65 years and over					1
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	98.47	.00	.51	1.02	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

GRAND COUNTY GRAND COUNTY 019 STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	105	106	211	2.54	2.58	2.56
1 and 2 years	206	198	404	4.99	4.82	4.90
3 and 4 years	194	173	367	4.70	4.21	4.45
5 years	67	101	168	1.62	2.46	2.04
6 years	67	76	143	1.62	1.85	1.74
7 to 9 years	225	243	468	5.45	5.91	5.68
10 to 13 years	277	278	555	6.71	6.76	6.73
14 years	82	62	144	1.98	1.51	1.75
15 years	62	77	139	1.50	1.87	1.69
16 years	78	71	149	1.89	1.73	1.81
17 years	93	76	169	2.25	1.85	2.05
18 years	73	63	136	1.77	1.53	1.65
19 years	53	91	144	1.28	2.21	1.75
20 years	85	79	164	2.06	1.92	1.99
21 years	62	69	131	1.50	1.68	1.59
22 to 24 years	257	232	489	6.22	5.64	5.93
25 to 29 years	408	365	773	9.88	8.88	9.38
30 to 34 years	333	337	670	8.06	8.20	8.13
35 to 44 years	439	452	891	10.63	11.00	10.81
45 to 54 years	427	391	818	10.34	9.51	9.93
55 to 59 years	157	144	301	3.80	3.50	3.65
60 and 61 years	47	66	113	1.14	1.61	1.37
62 to 64 years	76	74	150	1.84	1.80	1.82
65 to 74 years	179	196	375	4.33	4.77	4.55
75 to 84 years	62	78	140	1.50	1.90	1.70
85 years and over	17	12	29	.41	.29	.35
TOTAL	4131	4110	8241	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	935		32	2	982
5 to 17 years	1858		51	12	1935
18 to 64 years	4635		79	19	4780
65 years and over	538		2	4	544
PERCENT OF PERSONS *					
Under 5 years	95.21	.00	3.26	.20	.00
5 to 17 years	96.02	.00	2.64	.62	.00
18 to 64 years	96.97	.00	1.65	.40	.00
65 years and over	98.90	.00	.37	.74	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

MOAB DIVISION

GRAND COUNTY 019

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	97	106	203	2.45	2.68	2.56
1 and 2 years	199	192	391	5.03	4.85	4.94
3 and 4 years	183	167	350	4.63	4.22	4.42
5 years	66	95	161	1.67	2.40	2.03
6 years	65	73	138	1.64	1.84	1.74
7 to 9 years	217	234	451	5.49	5.91	5.70
10 to 13 years	269	268	537	6.80	6.77	6.78
14 years	82	62	144	2.07	1.57	1.82
15 years	59	74	133	1.49	1.87	1.68
16 years	71	70	141	1.80	1.77	1.78
17 years	87	75	162	2.20	1.89	2.05
18 years	72	62	134	1.82	1.57	1.69
19 years	52	89	141	1.32	2.25	1.78
20 years	83	75	158	2.10	1.89	2.00
21 years	57	65	122	1.44	1.64	1.54
22 to 24 years	243	220	463	6.15	5.55	5.85
25 to 29 years	388	349	737	9.81	8.81	9.31
30 to 34 years	317	327	644	8.02	8.26	8.14
35 to 44 years	433	432	865	10.95	10.91	10.93
45 to 54 years	402	376	778	10.17	9.49	9.83
55 to 59 years	150	136	286	3.79	3.43	3.61
60 and 61 years	46	63	109	1.16	1.59	1.38
62 to 64 years	72	71	143	1.82	1.79	1.81
65 to 74 years	170	193	363	4.30	4.87	4.59
75 to 84 years	58	76	134	1.47	1.92	1.69
85 years and over	16	11	27	.40	.28	.34
TOTAL	3954	3961	7915	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	897		32	2	944
5 to 17 years	1790		51	12	1867
18 to 64 years	4441		79	18	4580
65 years and over	518		2	4	524
PERCENT OF PERSONS *					
Under 5 years	95.02	.00	3.39	.21	.00
5 to 17 years	95.88	.00	2.73	.64	.00
18 to 64 years	96.97	.00	1.72	.39	.00
65 years and over	98.85	.00	.38	.76	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

MOAB CITY

GRAND COUNTY 019

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	62	65	127	2.33	2.44	2.38
1 and 2 years	124	131	255	4.65	4.91	4.78
3 and 4 years	125	111	236	4.69	4.16	4.43
5 years	44	63	107	1.65	2.36	2.01
6 years	43	44	87	1.61	1.65	1.63
7 to 9 years	151	163	314	5.67	6.11	5.89
10 to 13 years	174	174	348	6.53	6.52	6.53
14 years	50	38	88	1.88	1.42	1.65
15 years	34	43	77	1.28	1.61	1.44
16 years	40	44	84	1.50	1.65	1.58
17 years	55	49	104	2.06	1.84	1.95
18 years	49	42	91	1.84	1.57	1.71
19 years	42	57	99	1.58	2.14	1.86
20 years	60	47	107	2.25	1.76	2.01
21 years	44	47	91	1.65	1.76	1.71
22 to 24 years	182	147	329	6.83	5.51	6.17
25 to 29 years	274	247	521	10.28	9.25	9.77
30 to 34 years	214	218	432	8.03	8.17	8.10
35 to 44 years	275	275	550	10.32	10.31	10.31
45 to 54 years	267	256	523	10.02	9.60	9.81
55 to 59 years	106	94	200	3.98	3.52	3.75
60 and 61 years	30	49	79	1.13	1.84	1.48
62 to 64 years	47	44	91	1.76	1.65	1.71
65 to 74 years	115	149	264	4.32	5.58	4.95
75 to 84 years	46	61	107	1.73	2.29	2.01
85 years and over	12	10	22	.45	.37	.41
TOTAL	2665	2668	5333	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	581		25	2	618
5 to 17 years	1154		31	11	1209
18 to 64 years	2997		65	13	3113
65 years and over	387		2	4	393
PERCENT OF PERSONS *					
Under 5 years	94.01	.00	4.05	.32	.00
5 to 17 years	95.45	.00	2.56	.91	.00
18 to 64 years	96.27	.00	2.09	.42	.00
65 years and over	98.47	.00	.51	1.02	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

REMAINDER OF MOAB DIVISION

GRAND COUNTY 019

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	35	41	76	2.72	3.17	2.94
1 and 2 years	75	61	136	5.82	4.72	5.27
3 and 4 years	58	56	114	4.50	4.33	4.42
5 years	22	32	54	1.71	2.47	2.09
6 years	22	29	51	1.71	2.24	1.98
7 to 9 years	66	71	137	5.12	5.49	5.31
10 to 13 years	95	94	189	7.37	7.27	7.32
14 years	32	24	56	2.48	1.85	2.17
15 years	25	31	56	1.94	2.40	2.17
16 years	31	26	57	2.40	2.01	2.21
17 years	32	26	58	2.48	2.01	2.25
18 years	23	20	43	1.78	1.55	1.67
19 years	10	32	42	.78	2.47	1.63
20 years	23	28	51	1.78	2.17	1.98
21 years	13	18	31	1.01	1.39	1.20
22 to 24 years	61	73	134	4.73	5.65	5.19
25 to 29 years	114	102	216	8.84	7.89	8.37
30 to 34 years	103	109	212	7.99	8.43	8.21
35 to 44 years	158	157	315	12.26	12.14	12.20
45 to 54 years	135	120	255	10.47	9.28	9.88
55 to 59 years	44	42	86	3.41	3.25	3.33
60 and 61 years	16	14	30	1.24	1.08	1.16
62 to 64 years	25	27	52	1.94	2.09	2.01
65 to 74 years	55	44	99	4.27	3.40	3.83
75 to 84 years	12	15	27	.93	1.16	1.05
85 years and over	4	1	5	.31	.08	.19
TOTAL	1289	1293	2582	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	316		7		326
5 to 17 years	636		20		658
18 to 64 years	1444		14		1467
65 years and over	131				131
PERCENT OF PERSONS *					
Under 5 years	96.93	.00	2.15	.00	.00
5 to 17 years	96.66	.00	3.04	.00	.00
18 to 64 years	98.43	.00	.95	.00	.00
65 years and over	98.47	.00	.51	1.02	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

THOMPSON DIVISION

GRAND COUNTY 019

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	8		8	4.52	.00	2.45
1 and 2 years	7	6	13	3.95	4.03	3.99
3 and 4 years	11	6	17	6.21	4.03	5.21
5 years	1	6	7	.56	4.03	2.15
6 years	2	3	5	1.13	2.01	1.53
7 to 9 years	8	9	17	4.52	6.04	5.21
10 to 13 years	8	10	18	4.52	6.71	5.52
14 years				.00	.00	.00
15 years	3	3	6	1.69	2.01	1.84
16 years	7	1	8	3.95	.67	2.45
17 years	6	1	7	3.39	.67	2.15
18 years	1	1	2	.56	.67	.61
19 years	1	2	3	.56	1.34	.92
20 years	2	4	6	1.13	2.68	1.84
21 years	5	4	9	2.82	2.68	2.76
22 to 24 years	14	12	26	7.91	8.05	7.98
25 to 29 years	20	16	36	11.30	10.74	11.04
30 to 34 years	16	10	26	9.04	6.71	7.98
35 to 44 years	6	20	26	3.39	13.42	7.98
45 to 54 years	25	15	40	14.12	10.07	12.27
55 to 59 years	7	8	15	3.95	5.37	4.60
60 and 61 years	1	3	4	.56	2.01	1.23
62 to 64 years	4	3	7	2.26	2.01	2.15
65 to 74 years	9	3	12	5.08	2.01	3.68
75 to 84 years	4	2	6	2.26	1.34	1.84
85 years and over	1	1	2	.56	.67	.61
TOTAL	177	149	326	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	38				38
5 to 17 years	68				68
18 to 64 years	194				200
65 years and over	20				20
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	97.00	.00	.00	.00	.00
65 years and over	98.47	.00	.51	1.02	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

## 1980 CENSUS

GREEN RIVER CITY

GRAND COUNTY

019

STATE OF UTAH

## POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	4		4	7.84	.00	4.35
1 and 2 years	2	1	3	3.92	2.44	3.26
3 and 4 years	4	1	5	7.84	2.44	5.43
5 years		2	2	.00	4.88	2.17
6 years	1	1	2	1.96	2.44	2.17
7 to 9 years	6	3	9	11.76	7.32	9.78
10 to 13 years	3	3	6	5.88	7.32	6.52
14 years				.00	.00	.00
15 years		2	2	.00	4.88	2.17
16 years	3		3	5.88	.00	3.26
17 years	2		2	3.92	.00	2.17
18 years				.00	.00	.00
19 years				.00	.00	.00
20 years	1	1	2	1.96	2.44	2.17
21 years	5	3	8	9.80	7.32	8.70
22 to 24 years	2	2	4	3.92	4.88	4.35
25 to 29 years	2	5	7	3.92	12.20	7.61
30 to 34 years	5	2	7	9.80	4.88	7.61
35 to 44 years	1	9	10	1.96	21.95	10.87
45 to 54 years	7	5	12	13.73	12.20	13.04
55 to 59 years		1	1	.00	2.44	1.09
60 to 61 years				.00	.00	.00
62 to 64 years	2		2	3.92	.00	2.17
65 to 74 years	1		1	1.96	.00	1.09
75 to 84 years				.00	.00	.00
85 years and over				.00	.00	.00
TOTAL	51	41	92	100.00	100.00	100.00

## POPULATION BY AGE AND RACE

COUNT OF PERSONS	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
Under 5 years					12
5 to 17 years					26
65 years and over					53
					1
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	.00	.00	.00	.00	.00
65 years and over	98.47	.00	.51	1.02	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING



REMAINDER OF THOMPSON DIVISION

GRAND COUNTY 019

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	
Under 1 year	4	-	4	3.17	.00	1.71
1 and 2 years	5	5	10	3.97	4.63	4.27
3 and 4 years	7	5	12	5.56	4.63	5.13
5 years	1	4	5	.79	3.70	2.14
6 years	1	2	3	.79	1.85	1.28
7 to 9 years	2	6	8	1.59	5.56	3.42
10 to 13 years	5	7	12	3.97	6.48	5.13
14 years	-	-	-	.00	.00	.00
15 years	3	1	4	2.38	.93	1.71
16 years	4	1	5	3.17	.93	2.14
17 years	4	1	5	3.17	.93	2.14
18 years	1	1	2	.79	.93	.85
19 years	1	2	3	.79	1.85	1.28
20 years	1	3	4	.79	2.78	1.71
21 years	-	1	1	.00	.93	.43
22 to 24 years	12	10	22	9.52	9.26	9.40
25 to 29 years	18	11	29	14.29	10.19	12.39
30 to 34 years	11	8	19	8.73	7.41	8.12
35 to 44 years	5	11	16	3.97	10.19	6.84
45 to 54 years	18	10	28	14.29	9.26	11.97
55 to 59 years	7	7	14	5.56	6.48	5.98
60 and 61 years	1	3	4	.79	2.78	1.71
62 to 64 years	2	3	5	1.59	2.78	2.14
65 to 74 years	8	3	11	6.35	2.78	4.70
75 to 84 years	4	2	6	3.17	1.85	2.56
85 years and over	1	1	2	.79	.93	.85
TOTAL	126	108	234	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	26	-	-	-	26
5 to 17 years	42	-	-	-	42
18 to 64 years	145	-	-	-	147
65 years and over	19	-	-	-	19
PERCENT OF PERSONS *					
Under 5 years	.00	.00	.00	.00	.00
5 to 17 years	.00	.00	.00	.00	.00
18 to 64 years	98.64	.00	.00	.00	.00
65 years and over	98.47	.00	.51	1.02	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

STF 1A TAB16 DATE: 03/02/82 UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS  
 Universe: Households

GRAND COUNTY

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	490	17.76
MALE HOUSEHOLDER - - - - -	264	9.57
FEMALE HOUSEHOLDER - - - - -	226	8.19
2 OR MORE PERSONS: - - - - -	2269	82.24
MARRIED-COUPLE FAMILY - - - - -	1874	67.92
OTHER FAMILY: - - - - -	282	10.22
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -	81	2.94
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -	201	7.29
NONFAMILY HOUSEHOLD: - - - - -	113	4.10
MALE HOUSEHOLDER - - - - -	79	2.86
FEMALE HOUSEHOLDER - - - - -	34	1.23
TOTAL HOUSEHOLDS - - - - -	2759	

MOAB DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	454	17.22
MALE HOUSEHOLDER - - - - -	238	9.03
FEMALE HOUSEHOLDER - - - - -	216	8.19
2 OR MORE PERSONS: - - - - -	2182	82.78
MARRIED-COUPLE FAMILY - - - - -	1801	68.32
OTHER FAMILY: - - - - -	271	10.28
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -	76	2.88
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -	195	7.40
NONFAMILY HOUSEHOLD: - - - - -	110	4.17
MALE HOUSEHOLDER - - - - -	77	2.92
FEMALE HOUSEHOLDER - - - - -	33	1.25
TOTAL HOUSEHOLDS - - - - -	2636	

STF 1A TAB16 DATE: 03/02/82 UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS  
 Universe: Households

MOAB CITY

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	357	19.39
MALE HOUSEHOLDER - - - - -	187	10.16
FEMALE HOUSEHOLDER - - - - -	170	9.23
2 OR MORE PERSONS: - - - - -	1494	80.61
MARRIED-COUPLE FAMILY - - - - -	1201	65.24
OTHER FAMILY: - - - - -	199	10.81
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	50	2.72
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	149	8.09
NONFAMILY HOUSEHOLD: - - - - -	84	4.56
MALE HOUSEHOLDER - - - - -	56	3.04
FEMALE HOUSEHOLDER - - - - -	28	1.52
TOTAL HOUSEHOLDS - - - - -	1841	

REMAINDER OF MOAB DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	97	12.20
MALE HOUSEHOLDER - - - - -	51	6.42
FEMALE HOUSEHOLDER - - - - -	46	5.79
2 OR MORE PERSONS: - - - - -	698	87.80
MARRIED-COUPLE FAMILY - - - - -	600	75.47
OTHER FAMILY: - - - - -	72	9.06
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	26	3.27
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	46	5.79
NONFAMILY HOUSEHOLD: - - - - -	26	3.27
MALE HOUSEHOLDER - - - - -	21	2.64
FEMALE HOUSEHOLDER - - - - -	5	.63
TOTAL HOUSEHOLDS - - - - -	795	

STF 1A TAB16 DATE: 03/02/82 UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS  
 Universe: Households

THOMPSON DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	36	29.27
MALE HOUSEHOLDER - - - - -	26	21.14
FEMALE HOUSEHOLDER - - - - -	10	8.13
2 OR MORE PERSONS: - - - - -	87	70.73
MARRIED-COUPLE FAMILY - - - - -	73	59.35
OTHER FAMILY: - - - - -	11	8.94
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -	5	4.07
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -	6	4.88
NONFAMILY HOUSEHOLD: - - - - -	3	2.44
MALE HOUSEHOLDER - - - - -	2	1.63
FEMALE HOUSEHOLDER - - - - -	1	.81
TOTAL HOUSEHOLDS - - - - -	123	

GREEN RIVER CITY

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	6	20.00
MALE HOUSEHOLDER - - - - -	4	13.33
FEMALE HOUSEHOLDER - - - - -	2	6.67
2 OR MORE PERSONS: - - - - -	24	80.00
MARRIED-COUPLE FAMILY - - - - -	17	56.67
OTHER FAMILY: - - - - -	7	23.33
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -	2	6.67
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -	5	16.67
NONFAMILY HOUSEHOLD: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	30	

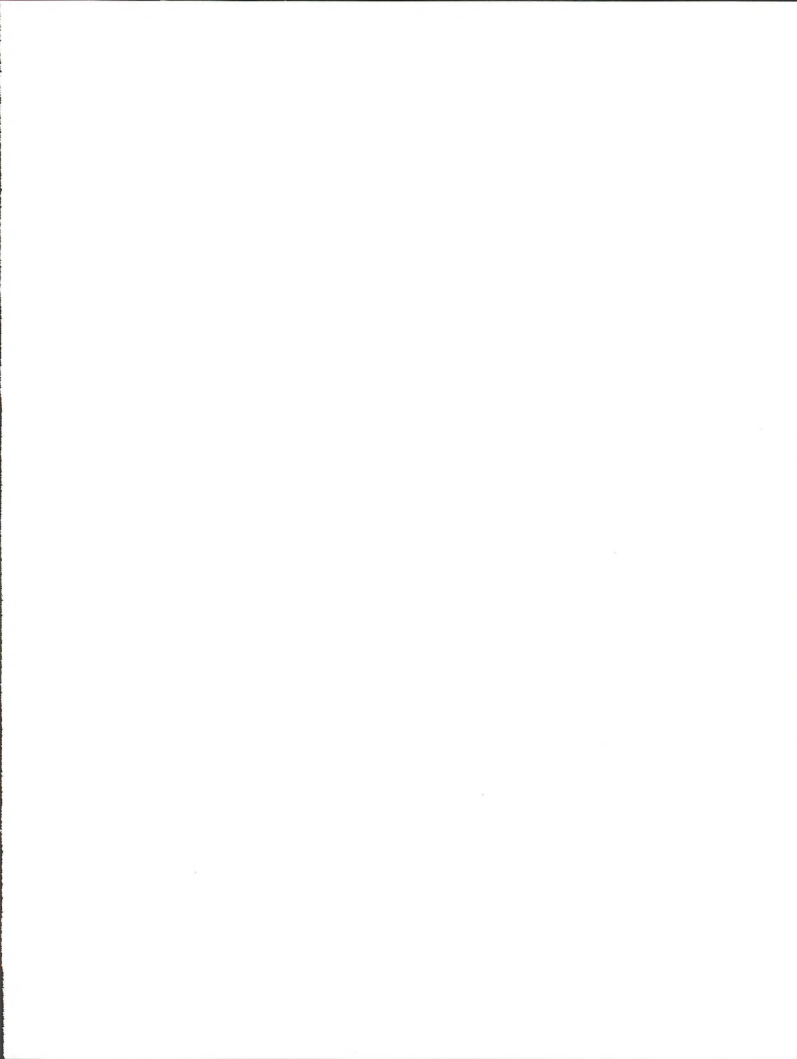
STF 1A TAB16 DATE: 03/02/82 UTAH  
 PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS  
 Universe: Households

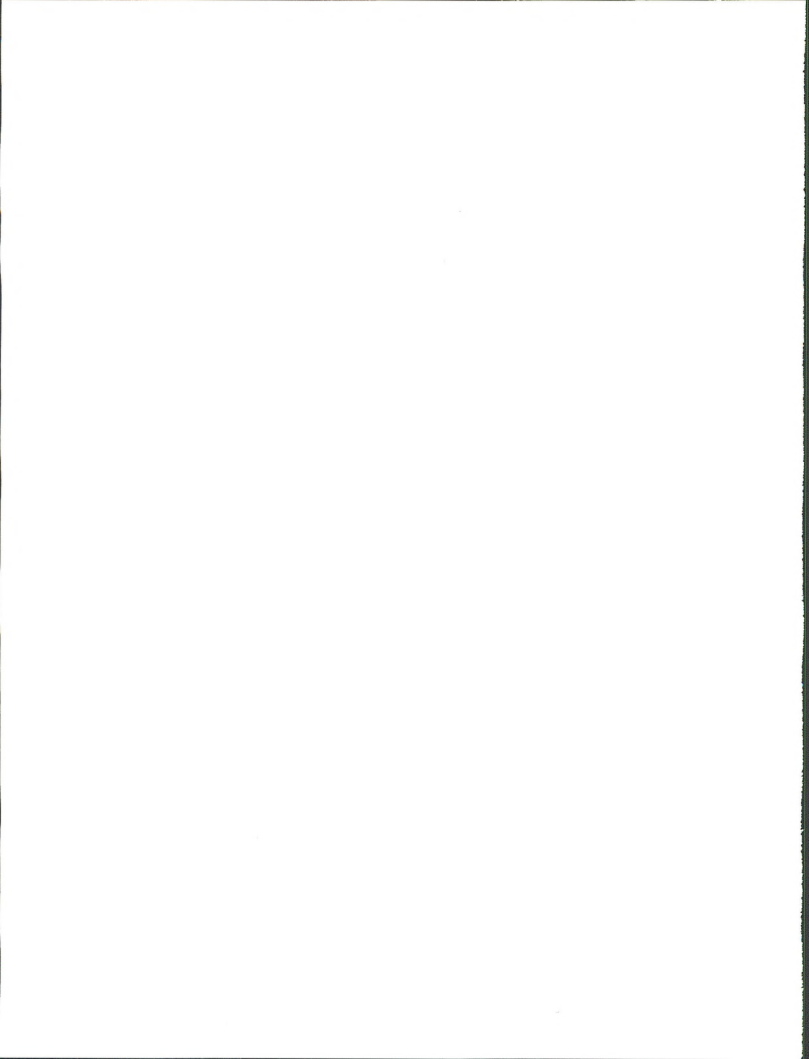
REMAINDER OF THOMPSON DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	30	32.26
MALE HOUSEHOLDER - - - - -	22	23.66
FEMALE HOUSEHOLDER - - - - -	8	8.60
2 OR MORE PERSONS: - - - - -	63	67.74
MARRIED-COUPLE FAMILY - - - - -	56	60.22
OTHER FAMILY: - - - - -	4	4.30
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -	3	3.23
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -	1	1.08
NONFAMILY HOUSEHOLD: - - - - -	3	3.23
MALE HOUSEHOLDER - - - - -	2	2.15
FEMALE HOUSEHOLDER - - - - -	1	1.08
TOTAL HOUSEHOLDS - - - - -	93	

UINTAH AND OURAY DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
2 OR MORE PERSONS: - - - - -	1	.00
MARRIED-COUPLE FAMILY - - - - -		.00
OTHER FAMILY: - - - - -		.00
MALE HOUSEHOLDER, NO WIFE PRESENT - - - - -		.00
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT - - - - -		.00
NONFAMILY HOUSEHOLD: - - - - -		.00
MALE HOUSEHOLDER - - - - -		.00
FEMALE HOUSEHOLDER - - - - -		.00
TOTAL HOUSEHOLDS - - - - -	1	





APPENDIX D  
UINTAH COUNTY

1980 Population and Household Characteristics

1980 Census



UINTAH COUNTY

UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	323	344	667	3.12	3.39	3.25
1 and 2 years	618	598	1216	5.96	5.90	5.93
3 and 4 years	604	536	1140	5.83	5.28	5.56
5 years	247	286	533	2.38	2.82	2.60
6 years	249	257	506	2.40	2.53	2.47
7 to 9 years	671	648	1319	6.47	6.39	6.43
10 to 13 years	776	766	1542	7.49	7.55	7.52
14 years	181	175	356	1.75	1.73	1.74
15 years	211	208	419	2.04	2.05	2.04
16 years	191	200	391	1.84	1.97	1.91
17 years	216	194	410	2.08	1.91	2.00
18 years	207	171	378	2.00	1.69	1.84
19 years	179	158	337	1.73	1.56	1.64
20 years	159	182	341	1.53	1.79	1.66
21 years	194	164	358	1.87	1.62	1.75
22 to 24 years	566	613	1179	5.46	6.04	5.75
25 to 29 years	965	906	1871	9.31	8.93	9.12
30 to 34 years	777	697	1474	7.50	6.87	7.19
35 to 44 years	1050	1062	2112	10.13	10.47	10.30
45 to 54 years	807	762	1569	7.79	7.51	7.65
55 to 59 years	332	299	631	3.20	2.95	3.08
60 and 61 years	108	109	217	1.04	1.07	1.06
62 to 64 years	151	167	318	1.46	1.65	1.55
65 to 74 years	369	401	770	3.56	3.95	3.75
75 to 84 years	178	198	376	1.72	1.95	1.83
85 years and over	35	41	76	.34	.40	.37
TOTAL	10364	10142	20506	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	2670		308	5	3023
5 to 17 years	4802		614	15	5476
18 to 64 years	9703		958	27	10785
65 years and over	1144		72		1222
PERCENT OF PERSONS *					
Under 5 years	88.32	.00	10.19	.17	.00
5 to 17 years	87.69	.00	11.21	.27	.00
18 to 64 years	89.97	.00	8.88	.25	.00
65 years and over	93.62	.00	5.89	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

UINTAH AND OURAY DIVISION

UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	68	74	142	3.13	3.41	3.27
1 and 2 years	138	133	271	6.36	6.14	6.25
3 and 4 years	132	130	262	6.08	6.00	6.04
5 years	56	65	121	2.58	3.00	2.79
6 years	59	55	114	2.72	2.54	2.63
7 to 9 years	145	134	279	6.68	6.18	6.43
10 to 13 years	169	186	355	7.78	8.58	8.18
14 years	46	39	85	2.12	1.80	1.96
15 years	49	56	105	2.25	2.58	2.42
16 years	41	42	83	1.89	1.94	1.91
17 years	54	50	104	2.49	2.31	2.40
18 years	48	36	84	2.21	1.66	1.94
19 years	35	38	73	1.61	1.75	1.68
20 years	31	40	71	1.43	1.85	1.64
21 years	29	32	61	1.34	1.48	1.41
22 to 24 years	93	118	211	4.28	5.45	4.86
25 to 29 years	195	194	389	8.98	8.95	8.97
30 to 34 years	160	161	321	7.37	7.43	7.40
35 to 44 years	219	224	443	10.09	10.34	10.21
45 to 54 years	168	145	313	7.74	6.69	7.22
55 to 59 years	56	55	111	2.58	2.54	2.56
60 and 61 years	21	26	47	.97	1.20	1.08
62 to 64 years	33	28	61	1.52	1.29	1.41
65 to 74 years	72	80	152	3.32	3.69	3.50
75 to 84 years	45	21	66	2.07	.97	1.52
85 years and over	9	5	14	.41	.23	.32
TOTAL	2171	2167	4338	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	379		284		675
5 to 17 years	691		538		1246
18 to 64 years	1287		872		2185
65 years and over	164		66		232
PERCENT OF PERSONS *					
Under 5 years	56.15	.00	42.07	.00	.00
5 to 17 years	55.46	.00	43.18	.00	.00
18 to 64 years	58.90	.00	39.91	.00	.00
65 years and over	93.62	.00	5.89	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

BALLARD TOWN

UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	
Under 1 year	8	13	21	3.01	4.45	3.75
1 and 2 years	22	18	40	8.27	6.16	7.17
3 and 4 years	18	17	35	6.77	5.82	6.27
5 years	4	10	14	1.50	3.42	2.51
6 years	7	5	12	2.63	1.71	2.15
7 to 9 years	17	19	36	6.39	6.51	6.45
10 to 13 years	19	28	47	7.14	9.59	8.42
14 years	2	7	9	.75	2.40	1.61
15 years	8	7	15	3.01	2.40	2.69
16 years	10	7	17	3.76	2.40	3.05
17 years	3	9	12	1.13	3.08	2.15
18 years	3	3	6	1.13	1.03	1.08
19 years	4	3	7	1.50	1.03	1.25
20 years	4	7	11	1.50	2.40	1.97
21 years	2	1	3	.75	.34	.54
22 to 24 years	12	13	25	4.51	4.45	4.48
25 to 29 years	28	33	61	10.53	11.30	10.93
30 to 34 years	19	22	41	7.14	7.53	7.35
35 to 44 years	25	30	55	9.40	10.27	9.86
45 to 54 years	26	18	44	9.77	6.16	7.89
55 to 59 years	5	7	12	1.88	2.40	2.15
60 and 61 years	3	5	8	1.13	1.71	1.43
62 to 64 years	4	2	6	1.50	.68	1.08
65 to 74 years	9	6	15	3.38	2.05	2.69
75 to 84 years	4	1	5	1.50	.34	.90
85 years and over		1	1	.00	.34	.18
TOTAL	266	292	558	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	92				95
5 to 17 years	155				162
18 to 64 years	273				279
65 years and over	21				21
PERCENT OF PERSONS *					
Under 5 years	95.83	.00	.00	.00	.00
5 to 17 years	95.68	.00	.00	.00	.00
18 to 64 years	97.85	.00	.00	.00	.00
65 years and over	93.62	.00	5.89	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

REMAINDER OF UINTAH AND OURAY DIVIS UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	60	61	121	3.15	3.25	3.20
1 and 2 years	116	115	231	6.09	6.13	6.11
3 and 4 years	114	113	227	5.98	6.03	6.01
5 years	52	55	107	2.73	2.93	2.83
6 years	52	50	102	2.73	2.67	2.70
7 to 9 years	128	115	243	6.72	6.13	6.43
10 to 13 years	150	158	308	7.87	8.43	8.15
14 years	44	32	76	2.31	1.71	2.01
15 years	41	49	90	2.15	2.61	2.38
16 years	31	35	66	1.63	1.87	1.75
17 years	51	41	92	2.68	2.19	2.43
18 years	45	33	78	2.36	1.76	2.06
19 years	31	35	66	1.63	1.87	1.75
20 years	27	33	60	1.42	1.76	1.59
21 years	27	31	58	1.42	1.65	1.53
22 to 24 years	81	105	186	4.25	5.60	4.92
25 to 29 years	167	161	328	8.77	8.59	8.68
30 to 34 years	141	139	280	7.40	7.41	7.41
35 to 44 years	194	194	388	10.18	10.35	10.26
45 to 54 years	142	127	269	7.45	6.77	7.12
55 to 59 years	51	48	99	2.68	2.56	2.62
60 and 61 years	18	21	39	.94	1.12	1.03
62 to 64 years	29	26	55	1.52	1.39	1.46
65 to 74 years	63	74	137	3.31	3.95	3.62
75 to 84 years	41	20	61	2.15	1.07	1.61
85 years and over	9	4	13	.47	.21	.34
TOTAL	1905	1875	3780	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	287		280		579
5 to 17 years	536		531		1084
18 to 64 years	1014		868		1906
65 years and over	143		66		211
PERCENT OF PERSONS *					
Under 5 years	49.57	.00	48.36	.00	.00
5 to 17 years	49.45	.00	48.99	.00	.00
18 to 64 years	53.20	.00	45.54	.00	.00
65 years and over	93.62	.00	5.89	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

VERNAL DIVISION

UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	
Under 1 year	255	270	525	3.11	3.39	3.25
1 and 2 years	480	465	945	5.86	5.83	5.84
3 and 4 years	472	406	878	5.76	5.09	5.43
5 years	191	221	412	2.33	2.77	2.55
6 years	190	202	392	2.32	2.53	2.42
7 to 9 years	526	514	1040	6.42	6.45	6.43
10 to 13 years	607	580	1187	7.41	7.27	7.34
14 years	135	136	271	1.65	1.71	1.68
15 years	162	152	314	1.98	1.91	1.94
16 years	150	158	308	1.83	1.98	1.90
17 years	162	144	306	1.98	1.81	1.89
18 years	159	135	294	1.94	1.69	1.82
19 years	144	120	264	1.76	1.50	1.63
20 years	128	142	270	1.56	1.78	1.67
21 years	165	132	297	2.01	1.66	1.84
22 to 24 years	473	495	968	5.77	6.21	5.99
25 to 29 years	770	712	1482	9.40	8.93	9.17
30 to 34 years	617	536	1153	7.53	6.72	7.13
35 to 44 years	831	838	1669	10.14	10.51	10.32
45 to 54 years	639	617	1256	7.80	7.74	7.77
55 to 59 years	276	244	520	3.37	3.06	3.22
60 and 61 years	87	83	170	1.06	1.04	1.05
62 to 64 years	118	139	257	1.44	1.74	1.59
65 to 74 years	297	321	618	3.63	4.03	3.82
75 to 84 years	133	177	310	1.62	2.22	1.92
85 years and over	26	36	62	.32	.45	.38
TOTAL	8193	7975	16168	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	2291		24	4	2348
5 to 17 years	4111		76	13	4230
18 to 64 years	8416		86	23	8600
65 years and over	980		6		990
PERCENT OF PERSONS *					
Under 5 years	97.57	.00	1.02	.17	.00
5 to 17 years	97.19	.00	1.80	.31	.00
18 to 64 years	97.86	.00	1.00	.27	.00
65 years and over	98.99	.00	.61	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

MAESER & CDP

UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	40	30	70	3.53	2.77	3.16
1 and 2 years	51	54	105	4.51	4.98	4.74
3 and 4 years	81	51	132	7.16	4.70	5.96
5 years	25	29	54	2.21	2.68	2.44
6 years	37	24	61	3.27	2.21	2.75
7 to 9 years	77	80	157	6.80	7.38	7.08
10 to 13 years	92	95	187	8.13	8.76	8.44
14 years	22	15	37	1.94	1.38	1.67
15 years	28	21	49	2.47	1.94	2.21
16 years	19	28	47	1.68	2.58	2.12
17 years	18	18	36	1.59	1.66	1.62
18 years	22	12	34	1.94	1.11	1.53
19 years	13	18	31	1.15	1.66	1.40
20 years	9	10	19	.80	.92	.86
21 years	17	12	29	1.50	1.11	1.31
22 to 24 years	40	42	82	3.53	3.87	3.70
25 to 29 years	90	108	198	7.95	9.96	8.94
30 to 34 years	86	80	166	7.60	7.38	7.49
35 to 44 years	132	122	254	11.66	11.25	11.46
45 to 54 years	90	94	184	7.95	8.67	8.30
55 to 59 years	48	33	81	4.24	3.04	3.66
60 and 61 years	12	18	30	1.06	1.66	1.35
62 to 64 years	15	23	38	1.33	2.12	1.71
65 to 74 years	47	46	93	4.15	4.24	4.20
75 to 84 years	16	16	32	1.41	1.48	1.44
85 years and over	5	5	10	.44	.46	.45
TOTAL	1132	1084	2216	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	304				307
5 to 17 years	613		11		628
18 to 64 years	1133		9		1146
65 years and over	134		1		135
PERCENT OF PERSONS *					
Under 5 years	99.02	.00	.00	.00	.00
5 to 17 years	97.61	.00	1.75	.00	.00
18 to 64 years	98.87	.00	.79	.00	.00
65 years and over	98.99	.00	.61	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

VERNAL CITY

UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	101	115	216	3.03	3.52	3.27
1 and 2 years	184	192	376	5.52	5.87	5.70
3 and 4 years	178	168	346	5.34	5.14	5.24
5 years	59	91	150	1.77	2.78	2.27
6 years	75	68	143	2.25	2.08	2.17
7 to 9 years	167	184	351	5.01	5.63	5.32
10 to 13 years	232	199	431	6.96	6.09	6.53
14 years	48	48	96	1.44	1.47	1.45
15 years	58	45	103	1.74	1.38	1.56
16 years	67	58	125	2.01	1.77	1.89
17 years	73	64	137	2.19	1.96	2.08
18 years	64	60	124	1.92	1.84	1.88
19 years	72	57	129	2.16	1.74	1.95
20 years	73	76	149	2.19	2.32	2.26
21 years	74	68	142	2.22	2.08	2.15
22 to 24 years	258	251	509	7.75	7.68	7.71
25 to 29 years	350	295	645	10.51	9.02	9.77
30 to 34 years	266	210	476	7.99	6.42	7.21
35 to 44 years	281	299	580	8.44	9.15	8.79
45 to 54 years	249	253	502	7.48	7.74	7.61
55 to 59 years	114	108	222	3.42	3.30	3.36
60 and 61 years	33	26	59	.99	.80	.89
62 to 64 years	52	55	107	1.56	1.68	1.62
65 to 74 years	133	166	299	3.99	5.08	4.53
75 to 84 years	59	97	156	1.77	2.97	2.36
85 years and over	11	16	27	.33	.49	.41
TOTAL	3331	3269	6600	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	902		11	2	938
5 to 17 years	1484		28	8	1536
18 to 64 years	3537		41	19	3644
65 years and over	476		4		482
PERCENT OF PERSONS *					
Under 5 years	96.16	.00	1.17	.21	.00
5 to 17 years	96.61	.00	1.82	.52	.00
18 to 64 years	97.06	.00	1.13	.52	.00
65 years and over	98.76	.00	.83	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING

REMAINDER OF VERNAL DIVISION

UINTAH COUNTY 047

STATE OF UTAH

POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	114	125	239	3.06	3.45	3.25
1 and 2 years	245	219	464	6.57	6.05	6.31
3 and 4 years	213	187	400	5.71	5.16	5.44
5 years	107	101	208	2.87	2.79	2.83
6 years	78	110	188	2.09	3.04	2.56
7 to 9 years	282	250	532	7.56	6.90	7.24
10 to 13 years	283	286	569	7.59	7.90	7.74
14 years	65	73	138	1.74	2.02	1.88
15 years	76	86	162	2.04	2.37	2.20
16 years	64	72	136	1.72	1.99	1.85
17 years	71	62	133	1.90	1.71	1.81
18 years	73	63	136	1.96	1.74	1.85
19 years	59	45	104	1.58	1.24	1.41
20 years	46	56	102	1.23	1.55	1.39
21 years	74	52	126	1.98	1.44	1.71
22 to 24 years	175	202	377	4.69	5.58	5.13
25 to 29 years	330	309	639	8.85	8.53	8.69
30 to 34 years	265	246	511	7.10	6.79	6.95
35 to 44 years	418	417	835	11.21	11.51	11.36
45 to 54 years	300	270	570	8.04	7.45	7.75
55 to 59 years	114	103	217	3.06	2.84	2.95
60 and 61 years	42	39	81	1.13	1.08	1.10
62 to 64 years	51	61	112	1.37	1.68	1.52
65 to 74 years	117	109	226	3.14	3.01	3.07
75 to 84 years	58	64	122	1.55	1.77	1.66
85 years and over	10	15	25	.27	.41	.34
TOTAL	3730	3622	7352	100.00	100.00	100.00

POPULATION BY AGE AND RACE

	WHITE	BLACK	AM INDIAN, ESKIMO, ALEUT	ASIAN, PACIFIC ISLANDER	TOTAL
COUNT OF PERSONS					
Under 5 years	1085		13		1103
5 to 17 years	2014		37		2056
18 to 64 years	3746		36		3810
65 years and over	370		1		373
PERCENT OF PERSONS *					
Under 5 years	98.37	.00	1.18	.00	.00
5 to 17 years	97.48	.00	1.79	.00	.00
18 to 64 years	98.32	.00	.94	.00	.00
65 years and over	98.76	.00	.83	.00	.00

\* PERCENTAGES MAY NOT SUM TO EXACTLY 100.00 DUE TO ROUNDING



STF 1A TAB16 DATE: 03/02/82 UTAH

PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS

Universe: Households

## UINTAH COUNTY

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	791	13.30
MALE HOUSEHOLDER - - - - -	392	6.59
FEMALE HOUSEHOLDER - - - - -	399	6.71
2 OR MORE PERSONS: - - - - -	5158	86.70
MARRIED-COUPLE FAMILY - - - - -	4481	75.32
OTHER FAMILY: - - - - -	540	9.08
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	142	2.39
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	398	6.69
NONFAMILY HOUSEHOLD: - - - - -	137	2.30
MALE HOUSEHOLDER - - - - -	108	1.82
FEMALE HOUSEHOLDER - - - - -	29	.49
TOTAL HOUSEHOLDS - - - - -	5949	

## UINTAH AND OURAY DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	117	10.69
MALE HOUSEHOLDER - - - - -	72	6.58
FEMALE HOUSEHOLDER - - - - -	45	4.11
2 OR MORE PERSONS: - - - - -	977	89.31
MARRIED-COUPLE FAMILY - - - - -	781	71.39
OTHER FAMILY: - - - - -	181	16.54
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	49	4.48
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	132	12.07
NONFAMILY HOUSEHOLD: - - - - -	15	1.37
MALE HOUSEHOLDER - - - - -	10	.91
FEMALE HOUSEHOLDER - - - - -	5	.46
TOTAL HOUSEHOLDS - - - - -	1094	

STF 1A TAB16 DATE: 03/02/82 UTAH

## PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS

Universe: Households

## BALLARD TOWN

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	20	13.51
MALE HOUSEHOLDER - - - - -	12	8.11
FEMALE HOUSEHOLDER - - - - -	8	5.41
2 OR MORE PERSONS: - - - - -	128	86.49
MARRIED-COUPLE FAMILY - - - -	108	72.97
OTHER FAMILY: - - - - -	17	11.49
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	2	1.35
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	15	10.14
NONFAMILY HOUSEHOLD: - - - -	3	2.03
MALE HOUSEHOLDER - - - - -	2	1.35
FEMALE HOUSEHOLDER - - - - -	1	.68
TOTAL HOUSEHOLDS - - - - -	148	

## REMAINDER OF UINTAH AND OURAY DIVISION

	HOUSEHOLDS	
	COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	97	10.25
MALE HOUSEHOLDER - - - - -	60	6.34
FEMALE HOUSEHOLDER - - - - -	37	3.91
2 OR MORE PERSONS: - - - - -	849	89.75
MARRIED-COUPLE FAMILY - - - -	673	71.14
OTHER FAMILY: - - - - -	164	17.34
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	47	4.97
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	117	12.37
NONFAMILY HOUSEHOLD: - - - -	12	1.27
MALE HOUSEHOLDER - - - - -	8	.85
FEMALE HOUSEHOLDER - - - - -	4	.42
TOTAL HOUSEHOLDS - - - - -	946	

STF 1A    TAB16    DATE: 03/02/82    UTAH

PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE    1980 CENSUS

Universe:    Households

VERNAL DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	674	13.88
MALE HOUSEHOLDER - - - - -	320	6.59
FEMALE HOUSEHOLDER - - - - -	354	7.29
2 OR MORE PERSONS: - - - - -	4181	86.12
MARRIED-COUPLE FAMILY - - - - -	3700	76.21
OTHER FAMILY: - - - - -	359	7.39
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	93	1.92
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	266	5.48
NONFAMILY HOUSEHOLD: - - - - -	122	2.51
MALE HOUSEHOLDER - - - - -	98	2.02
FEMALE HOUSEHOLDER - - - - -	24	.49
TOTAL HOUSEHOLDS - - - - -	4855	

MAESER %CDP

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	60	9.57
MALE HOUSEHOLDER - - - - -	26	4.15
FEMALE HOUSEHOLDER - - - - -	34	5.42
2 OR MORE PERSONS: - - - - -	567	90.43
MARRIED-COUPLE FAMILY - - - - -	520	82.93
OTHER FAMILY: - - - - -	37	5.90
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	10	1.59
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	27	4.31
NONFAMILY HOUSEHOLD: - - - - -	10	1.59
MALE HOUSEHOLDER - - - - -	8	1.28
FEMALE HOUSEHOLDER - - - - -	2	.32
TOTAL HOUSEHOLDS - - - - -	627	

STF 1A TAB16 DATE: 03/02/82 UTAH

PERSONS IN HOUSEHOLD AND HOUSEHOLD TYPE 1980 CENSUS

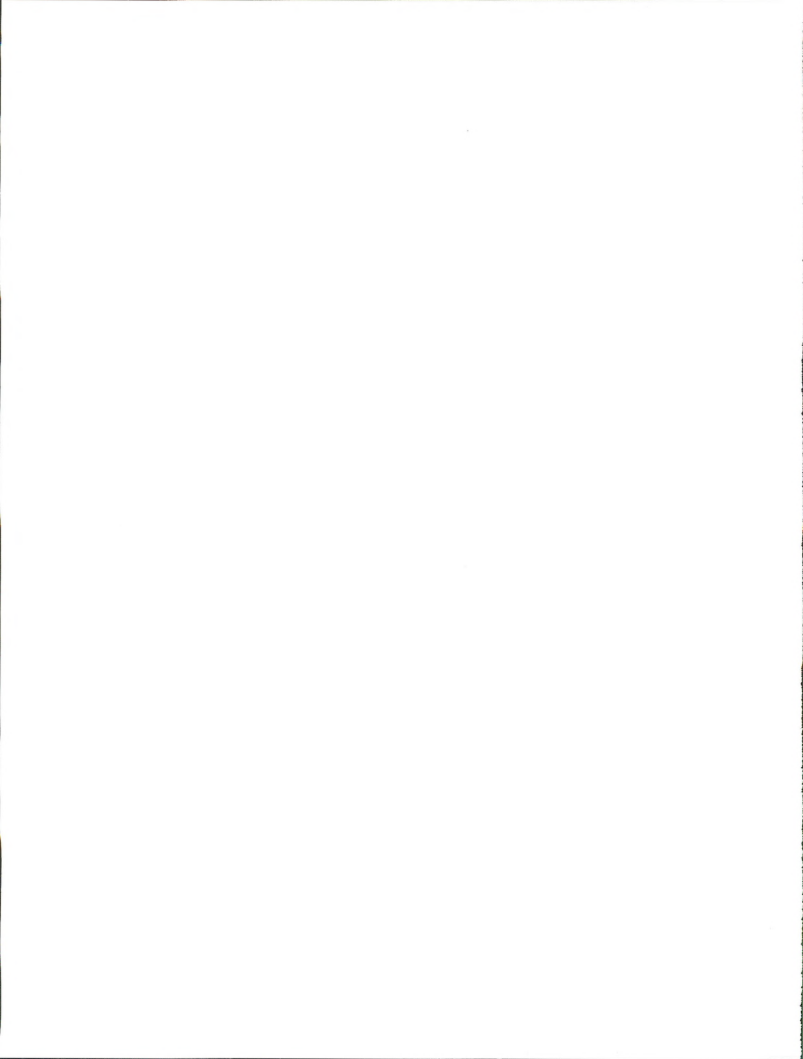
Universe: Households

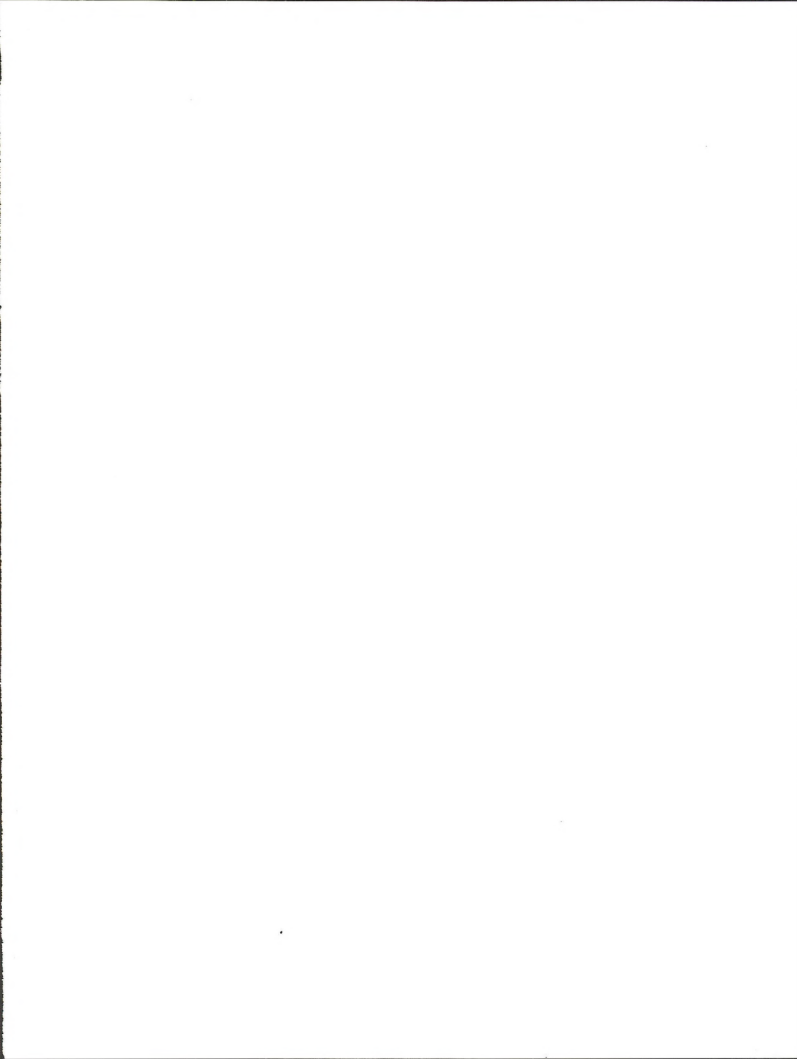
VERNAL CITY

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	411	18.72
MALE HOUSEHOLDER - - - - -	206	9.38
FEMALE HOUSEHOLDER - - - - -	205	9.34
2 OR MORE PERSONS: - - - - -	1785	81.28
MARRIED-COUPLE FAMILY - - - -	1511	68.81
OTHER FAMILY: - - - - -	196	8.93
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	43	1.96
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	153	6.97
NONFAMILY HOUSEHOLD: - - - -	78	3.55
MALE HOUSEHOLDER - - - - -	61	2.78
FEMALE HOUSEHOLDER - - - - -	17	.77
TOTAL HOUSEHOLDS - - - - -	2196	

REMAINDER OF VERNAL DIVISION

	HOUSEHOLDS COUNT	PERCENT (OF TOTAL)
1 PERSON: - - - - -	203	9.99
MALE HOUSEHOLDER - - - - -	88	4.33
FEMALE HOUSEHOLDER - - - - -	115	5.66
2 OR MORE PERSONS: - - - - -	1829	90.01
MARRIED-COUPLE FAMILY - - - -	1669	82.14
OTHER FAMILY: - - - - -	126	6.20
MALE HOUSEHOLDER, NO		
WIFE PRESENT - - - - -	40	1.97
FEMALE HOUSEHOLDER, NO		
HUSBAND PRESENT - - - - -	86	4.20
NONFAMILY HOUSEHOLD: - - - -	34	1.67
MALE HOUSEHOLDER - - - - -	29	1.43
FEMALE HOUSEHOLDER - - - - -	5	.25
TOTAL HOUSEHOLDS - - - - -	2032	







APPENDIX E

MOFFAT COUNTY, COLORADO

Population - 1980 Census



## 1980 CENSUS

MOFFATT COUNTY

ARTESIA DIVISION

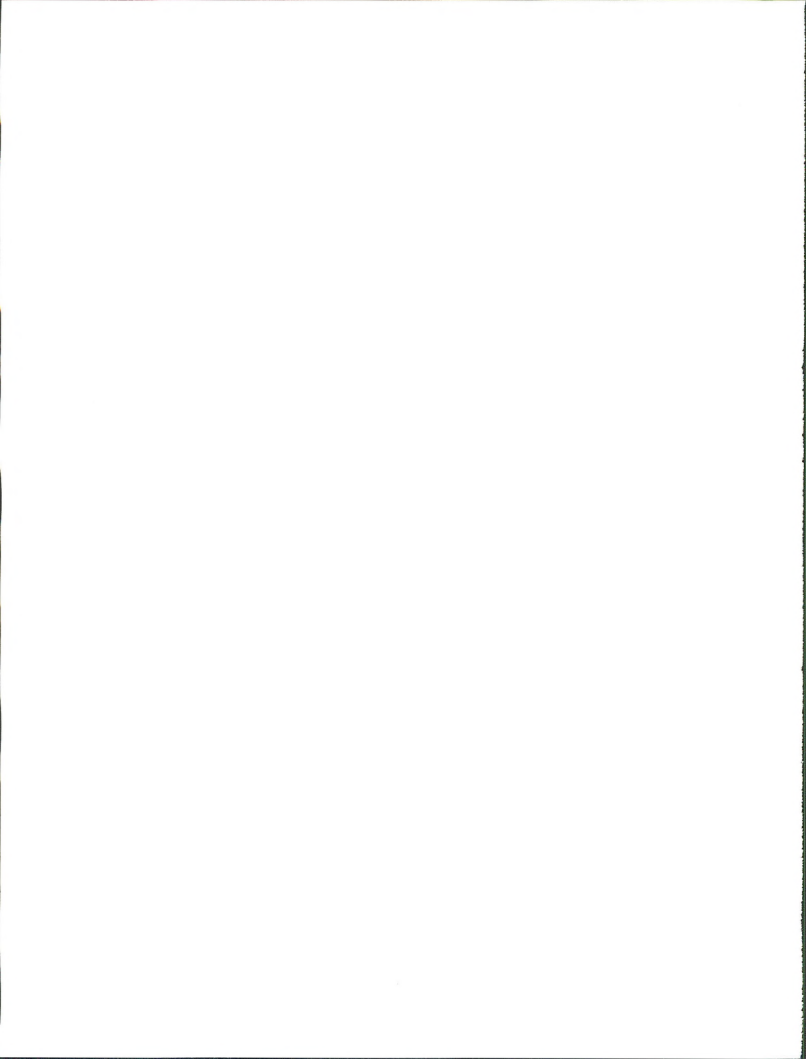
STATE OF COLORADO

## POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	3	5	8	1.40	2.56	1.95
1 and 2 years	12	6	18	5.58	3.08	4.39
3 and 4 years	5	18	13	2.32	4.1	3.17
5 years	2	6	8	.93	3.08	1.95
6 years	5	3	8	2.38	1.54	1.95
7 to 9 years	15	11	26	6.98	5.64	6.34
10 to 13 years	14	15	29	6.51	7.69	7.07
14 years	7	5	12	3.26	2.56	2.93
15 years	0	3	3	0	1.54	.73
16 years	4	3	7	1.86	1.54	1.71
17 years	3	7	10	1.4	3.59	2.44
18 years	4	1	5	1.86	.51	1.22
19 years	4	4	8	1.86	2.05	1.95
20 years	7	4	11	3.26	2.05	2.68
21 years	5	3	8	2.38	1.54	1.95
22 to 24 years	16	10	26	7.44	5.13	6.34
25 to 29 years	19	17	36	8.84	8.72	8.78
30 to 34 years	16	17	33	7.44	8.72	8.05
35 to 44 years	24	24	48	11.16	12.3	11.7
45 to 54 years	16	18	34	7.44	9.23	8.29
55 to 59 years	9	4	13	4.19	2.05	3.17
60 and 61 years	2	4	6	.93	2.05	1.46
62 to 64 years	8	4	12	3.72	2.05	2.93
65 to 74 years	14	6	20	6.51	3.08	4.88
75 to 84 years	1	7	8	.47	3.59	1.95
85 years and over	0	0	0	0	0	0
TOTAL	215	195	410	100.0	100.0	100.0

\* Percents may not sum to exactly 100.00 due to rounding





APPENDIX F

RIO BLANCO COUNTY, COLORADO

Population - 1980 Census

## 1980 CENSUS

RIO BLANCO COUNTY

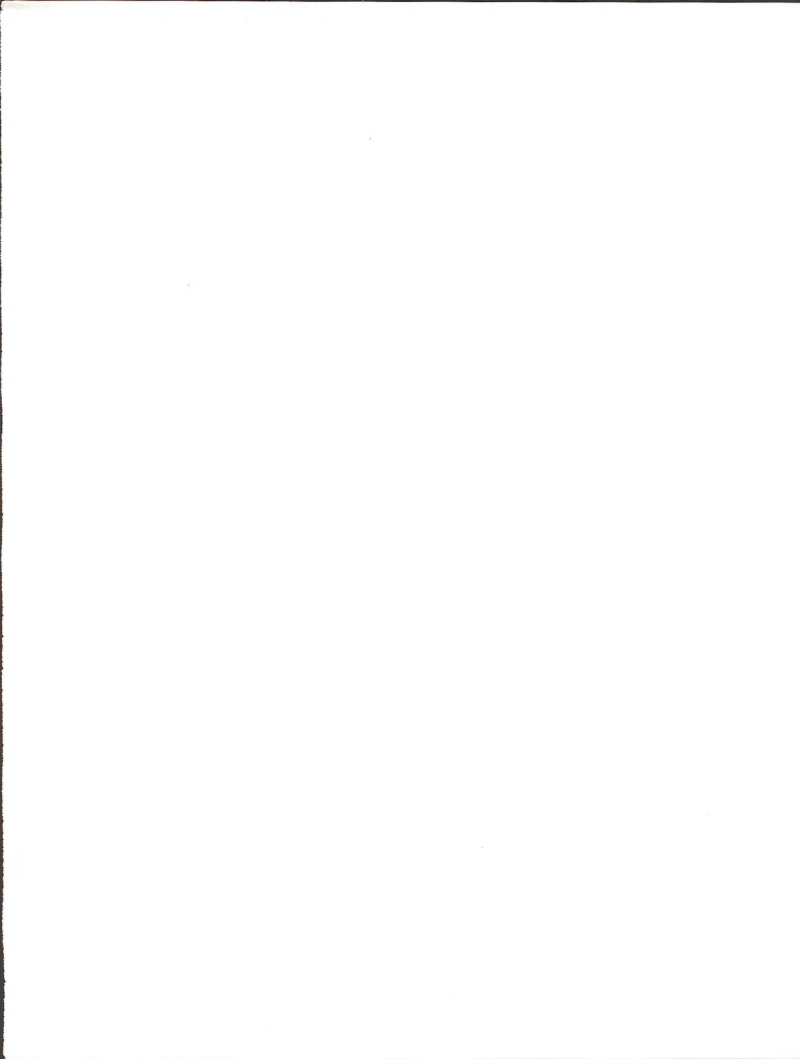
RANGELY DIVISION

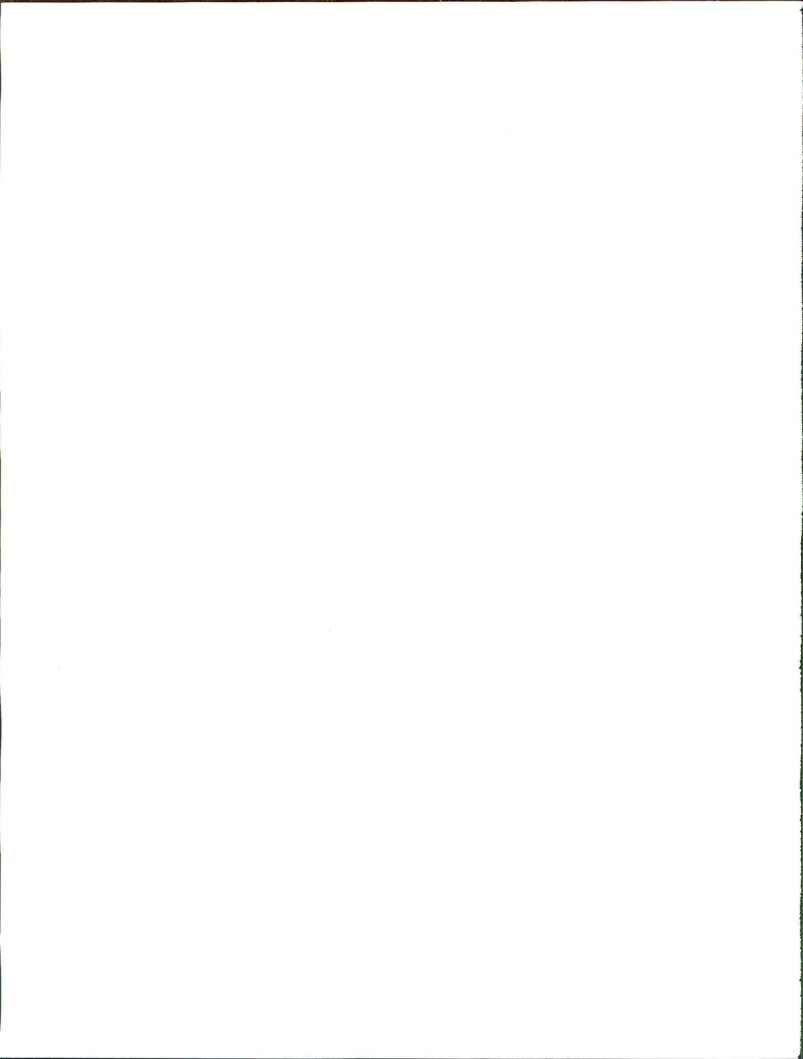
STATE OF COLORADO

## POPULATION BY AGE AND SEX

AGE	COUNT OF PERSONS			PERCENT *		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Under 1 year	31	31	62	2.22	2.55	2.37
1 and 2 years	46	47	93	3.29	3.87	3.56
3 and 4 years	35	38	73	2.5	3.13	2.79
5 years	20	24	44	1.43	1.97	1.68
6 years	14	15	29	1.00	1.24	1.11
7 to 9 years	66	65	131	4.71	5.35	5.01
10 to 13 years	72	74	146	5.15	6.10	5.59
14 years	24	17	41	1.71	1.40	1.57
15 years	16	26	42	1.14	2.14	1.61
16 years	24	22	46	1.71	1.81	1.76
17 years	26	30	56	1.86	2.47	2.14
18	63	43	106	4.5	3.54	4.06
19 years	89	47	136	6.36	3.87	5.20
20 years	78	42	120	5.58	3.46	4.60
21 years	48	30	78	3.43	2.47	2.99
22 to 24 years	99	77	176	7.08	6.34	6.74
25 to 29 years	127	107	234	9.08	8.81	8.96
30 to 34 years	83	82	165	5.93	6.75	6.31
35 to 44 years	165	149	314	11.79	12.27	12.02
45 to 54 years	133	115	248	9.51	9.47	9.49
55 to 59 years	49	39	88	3.50	3.21	3.37
60 to 61 years	22	18	40	1.57	1.48	1.53
62 to 64 years	22	28	50	1.57	2.30	1.91
65 to 74 years	32	31	63	2.29	2.55	2.41
75 to 84 years	13	13	26	.93	1.07	1.00
85 years and over	2	4	6	.14	.33	.23
TOTAL	1,399	1,214	2,613	100.0%	100.0%	100.0%

\*percents may not sum to exactly 100.0 due to rounding





APPENDIX G

NON-AGRICULTURAL WAGE & SALARY EMPLOYMENT

Daggett, Duchesne, Grand, Uintah Counties



TABLE G-1  
Non-Agricultural Wage and Salary Employment  
(Selected Years to 1980)

UTAH - Daggett County

	<u>1960</u>	<u>1965</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Total Population	1,164	700	650	650	660	600	700	800	750
% from previous year				0.0	(7.6)	0.0	16.6	14.2	(6.2)
Labor Force	340	280	252	310	332	303	288	275	270
% from previous year				23.0	7.0	(8.7)	(4.9)	(4.5)	(1.8)
Employed	320	250	224	261	252	254	250	244	249
Unemployed	20	30	28	49	80	49	38	31	21
Unemployment Rate (%)	5.8	10.6	11.0	15.7	24.0	16.1	13.1	11.2	7.7
Non-Agricultural Employment	244	190	204	245	237	237	236	226	232
% Distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	NA	NA	NA						
%	NA	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0
Mining	NA	NA	NA	2	2	2	2	2	2
%	NA	NA	NA	0.8	0.8	0.8	0.8	0.9	0.9
Contract Construction	NA	NA	NA	5			4	7	14
%	NA	NA	NA	2.0	0.0	0.0	1.7	3.1	6.0
Transportation, Public Utilities									
Communication	NA	NA	NA	4	7	12	10	9	10
%	NA	NA	NA	1.6	3.0	5.1	4.2	4.0	4.3
Trade	NA	NA	NA	38	36	34	38		
%	NA	NA	NA	11.0	13.5	16.0	15.3	15.0	16.4
Finance, Insurance,									
Real Estate	NA	NA	NA				1	1	22
%	NA	NA	NA	0.0	0.0	0.4	0.4	0.9	0.9
Government	175	139	157	196	184	166	170	163	159
%	94.6	100.0	100.0	80.0	77.6	70.0	72.0	72.1	68.5
Services				11	12	18	13	9	7
%	0.0	0.0	0.0	4.5	5.1	7.6	5.5	4.0	3.0

NA: --- Not Available

Source: Department of Employment Security

Table G-1 Continued

## UTAH - Daggett County

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Total Population	700	750	750	750
% from previous year	(6.7)	7.1	0.0	2.5
Labor Force	269	347	300	355
% from previous year	0.0	28.9	(13.5)	18.3
Employed	257	335	280	343
Unemployed	12	12	20	13
Unemployment Rate (%)	4.5	3.5	6.9	3.7
Non-Agricultural Employment	269	330	268	341
% Distribution	100.0	100.0	100.0	100.0
Manufacturing	0	0	0	2
%	0.0	0.0	0.0	0.5
Mining	0	3	0	0
%	0.0	0.9	0.0	0.0
Contract Construction	37	74	20	93
%	13.8	22.4	7.5	27.3
Transportation, Public Utilities	9	13	11	16
Communication	3.3	3.9	4.1	4.7
%	41	45	44	39
Trade	15.2	13.6	16.4	11.4
%	5.7	3.9	5.3	3.1
Finance, Insurance,	1	0	0	0
Real Estate	0.4	0.0	0.0	0.0
%	163	181	183	177
Government	60.6	54.8	68.3	51.9
%	8	8	10	14
Services	3.0	2.4	3.7	4.1
%				

NA: --- Not Available

Source: Department of Employment Security

Table G-2  
Non-Agricultural Wage and Salary Employment  
Selected Years To 1980

UTAH - Duchesne County

	1960	1965	1970	1971	1972	1973	1974	1975	1976
Total Population	7,179	6,500	7,400	8,500	9,900	11,000	11,550	11,500	11,150
% from previous year		(9.4)	13.8	14.8	16.4	11.1	5.0	(0.4)	(3.0)
Labor Force	3,000	2,570	2,921	3,163	4,122	5,315	5,433	5,277	4,859
% from previous year		(14.3)	13.6	8.2	30.3	28.9	2.2	(2.8)	(7.9)
Employed	2,750	2,340	2,627	2,893	3,946	5,126	5,214	4,923	4,511
Unemployed	250	230	294	270	176	189	219	354	348
Unemployment Rate (%)	8.2	8.8	10.0	8.4	4.2	3.5	3.9	6.6	7.1
Non-Agricultural Employment	1,071	988	1,610	1,826	2,666	3,538	3,659	3,395	3,099
% Distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	NA	NA	NA	60	91	92	97	93	91
%	NA	NA	NA	3.3	3.4	2.6	2.7	2.7	2.9
Mining	NA	NA	NA	430	918	1,243	1,365	1,060	720
%	NA	NA	NA	23.5	34.4	35.1	37.3	31.2	23.6
Contract Construction	NA	NA	NA	48	97	268	151	158	117
%	NA	NA	NA	2.6	3.6	7.6	4.1	4.7	3.8
Transportation, Public Utilities	NA	NA	NA	87	105	179	195	169	157
Communication	NA	NA	NA	4.8	3.9	5.1	5.3	5.0	5.1
Trade	NA	NA	NA	362	563	748	795	815	844
%	NA	NA	NA	19.8	21.1	21.1	21.7	24.0	27.2
Finance, Insurance, Real Estate	NA	NA	NA	35	60	61	81	80	74
%	NA	NA	NA	1.9	2.3	1.7	2.2	2.4	2.4
Government	347	367	571	599	676	704	724	792	857
%	100.0	100.0	100.0	32.8	25.4	19.9	19.8	23.3	27.7
Services	NA	NA	NA	205	156	243	251	228	229
%	0.0	0.0	0.0	11.2	5.9	6.9	6.9	6.7	7.4

NA - Not Available

Source: Department of Employment Security

Table G-2 Continued

## UTAH - Duchesne County

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Total Population	11,400	11,600	11,850	12,650
% from previous year	1.7	2.1	6.7	9.73
Labor Force	5,115	5,208	5,300	6,017
% from previous year	5.5	1.6	1.8	13.5
Employed	4,805	4,954	5,060	5,734
Unemployed	320	254	240	283
Unemployment Rate (%)	6.2	4.9	4.5	3.8
Non-Agricultural Employment	3,279	3,409	3,513	4,062
% Distribution	100.0	100.0	100.0	100.0
Manufacturing	93	96	145	174
%	2.7	2.8	4.1	4.2
Mining	771	765	788	1,071
%	23.5	22.4	22.4	26.4
Contract Construction	199	259	182	210
%	6.1	7.9	5.2	5.2
Transportation, Public Utilities				
Communication	156	163	170	238
%	4.8	4.8	4.6	5.9
Trade	809	850	897	893
%	24.7	24.9	25.5	22.0
Finance, Insurance,				
Real Estate	72	88	75	81
%	2.2	2.6	2.1	2.0
Government	920	910	977	1,097
%	28.1	26.7	27.8	27.0
Services	234	268	279	298
%	7.1	7.9	7.9	7.3

NA - Not Available

Source: Department of Employment Security

Table G-3  
Non-Agricultural Wage and Salary Employment  
Selected Years to 1980

UTAH - Grand County

	1960	1965	1970	1971	1972	1973	1974	1975	1976
Total Population	6,345	6,900	6,600	6,550	6,500	6,450	6,500	6,900	7,300
% from previous year				(0.7)	(0.7)	(0.7)	0.7	6.1	5.7
Labor Force	2,700	2,580	2,682	2,472	2,697	2,582	2,597	2,793	3,096
% from previous year				(7.8)	9.1	(4.2)	0.5	7.5	10.8
Employed	2,640	2,420	2,548	2,324	2,530	2,441	2,451	2,623	2,917
Unemployed	60	160	134	148	167	141	146	170	179
Unemployment Rate (%)	2.2	6.2	5.0	6.0	6.2	5.5	5.6	6.1	5.8
Non-Agricultural Employment	1,661	1,790	2,165	2,089	2,295	2,216	2,235	2,390	2,674
% Distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	12	NA	81	74	76	85	107	83	86
%	0.7	0.0	3.7	3.5	3.3	3.8	4.8	3.5	3.2
Mining	664	663	499	415	431	352	373	423	525
%	40.0	37.0	23.0	19.9	18.8	15.9	16.7	17.7	19.6
Contract Construction	NA	NA	163	65	177	167	170	206	278
%	NA	NA	7.5	3.1	7.7	7.5	7.6	8.6	10.4
Transportation, Public Utilities									
Communication	244	177	186	203	210	214	203	224	200
%	14.7	9.9	8.6	9.7	9.2	9.7	9.1	9.4	7.5
Trade	293	327	401	458	565	597	571	607	631
%	17.6	18.3	18.5	21.9	24.6	26.9	25.5	25.4	23.6
Finance, Insurance, Real Estate									
	41	NA	53	55	66	84	82	59	59
%	2.5	NA	2.4	2.6	2.9	3.8	3.7	2.5	2.2
Government	269	330	439	447	420	393	393	420	507
%	16.2	18.4	20.3	21.4	18.3	17.7	17.6	17.6	19.0
Services	138	293	343	372	350	324	336	368	388
%	8.3	16.4	15.8	17.8	15.3	14.6	15.0	15.4	14.5

NA - Not Available

Source: Department of Employment Security

Table G-3 Continued

## UTAH - Grand County

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Total Population	7,650	8,100	7,950	8,250
% from previous year	5.8	(1.8)	3.7	(100.0)
Labor Force	3,349	3,760	3,520	3,767
% from previous year	8.2	12.2	(6.3)	7.0
Employed	3,166	3,560	3,330	3,547
Unemployed	183	200	190	220
Unemployment Rate (%)	5.5	5.3	5.4	5.8
Non-Agricultural Employment	2,926	3,259	3,060	3,272
% Distribution	100.0	100.0	100.0	100.0
Manufacturing	91	117	90	69
%	3.1	3.6	2.9	2.1
Mining	630	745	725	736
%	21.5	22.9	23.7	22.5
Contract Construction	280	222	188	345
%	9.6	6.8	6.14	10.5
Transportation, Public Utilities				
Communication	193	226	244	245
%	6.6	6.9	8.0	7.5
Trade	697	810	755	809
%	23.8	24.9	24.7	24.7
Finance, Insurance,				
Real Estate	63	75	83	88
%	2.2	2.3	2.7	2.7
Government	535	610	601	579
%	18.3	16.7	19.6	17.7
Services	431	454	374	401
%	14.7	13.9	12.2	12.3

NA - Not Available

Source: Department of Employment Security

TABLE G-4  
Non-Agricultural Wage and Salary Employment  
(Selected Years to 1980)

Utah: Uintah County

	<u>1960</u>	<u>1965</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Total Population	11,582	12,800	12,800	14,100	15,250	16,050	16,950	17,350	17,500
% from previous year				10.1	8.1	5.2	5.6	2.3	0.8
Labor Force	3,890	4,100	4,746	5,166	5,966	6,310	6,895	7,027	6,936
% from previous year				8.8	15.4	5.7	9.2	1.9	(1.2)
Employed	3,710	3,860	4,463	4,852	5,704	6,088	6,621	6,587	6,514
Unemployed	180	240	283	314	262	222	274	440	422
Unemployment Rate (%)	4.5	5.8	5.9	6.0	4.3	3.4	3.9	6.2	6.0
Non-Agricultural Employment	3,001	3,023	3,510	3,865	4,698	4,985	5,396	5,483	5,424
% Distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	165	117	249	323	353	360	243	287	306
%	5.5	3.9	7.1	8.4	7.5	7.2	4.5	5.2	5.6
Mining	838	884	711	788	961	1,016	1,166	1,064	960
%	27.9	29.2	20.3	20.4	20.5	20.4	21.6	19.4	17.7
Contract Construction	376	132	180	140	227	209	278	287	216
%	12.5	4.4	5.1	3.6	4.8	4.2	5.2	5.2	4.0
Transportation, public utilities									
Communication	166	143	177	210	301	368	427	503	464
%	5.5	4.7	5.0	5.4	6.4	7.4	7.9	9.2	8.6
Trade	523	615	711	818	989	1,113	1,203	1,176	1,255
%	17.4	20.3	20.3	21.2	21.1	22.3	22.3	21.4	23.1
Finance, insurance, real estate	59	66	74	77	91	106	110	107	110
%	2.0	2.2	2.1	2.0	1.9	2.1	2.0	2.0	2.0
Government	649	806	860	825	899	855	953	993	1,028
%	21.6	26.7	24.5	21.3	19.1	17.2	17.7	18.1	19.0
Services	225	260	548	684	877	958	1,016	1,066	1,085
%	7.5	8.6	15.6	17.7	18.7	19.2	18.8	19.4	20.0

NA - Not Available

Source: Department of Employment Security

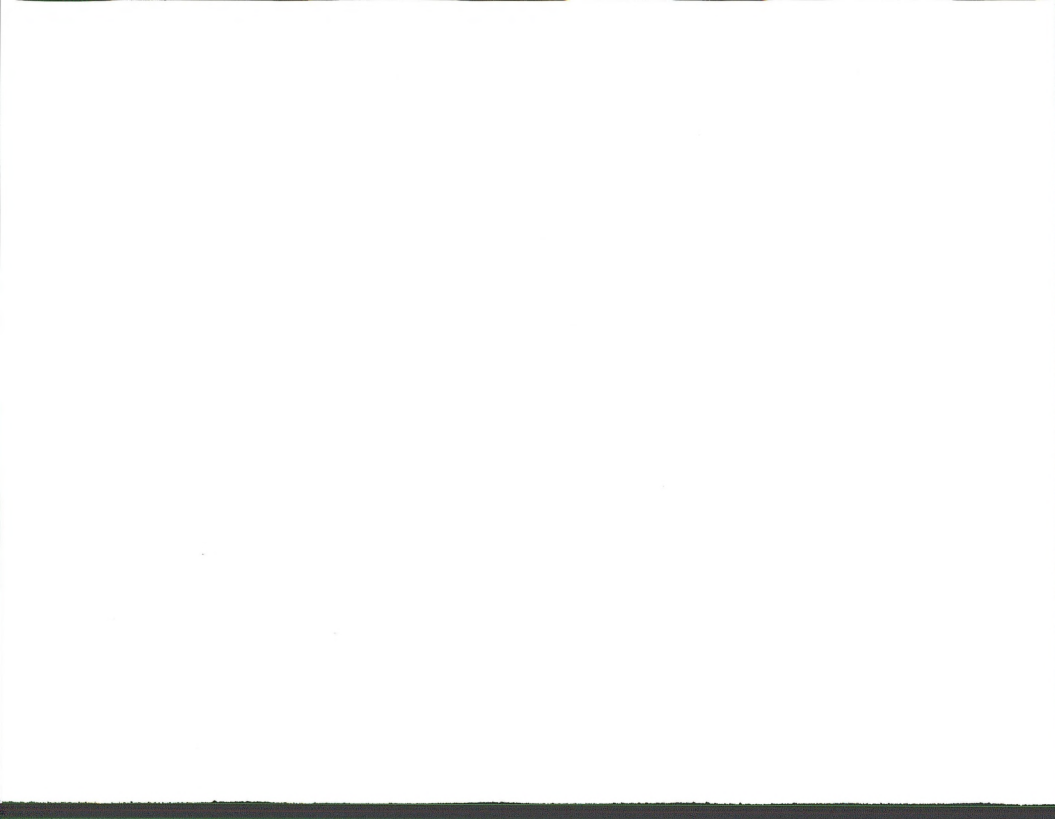
Table G-4 (Continued)

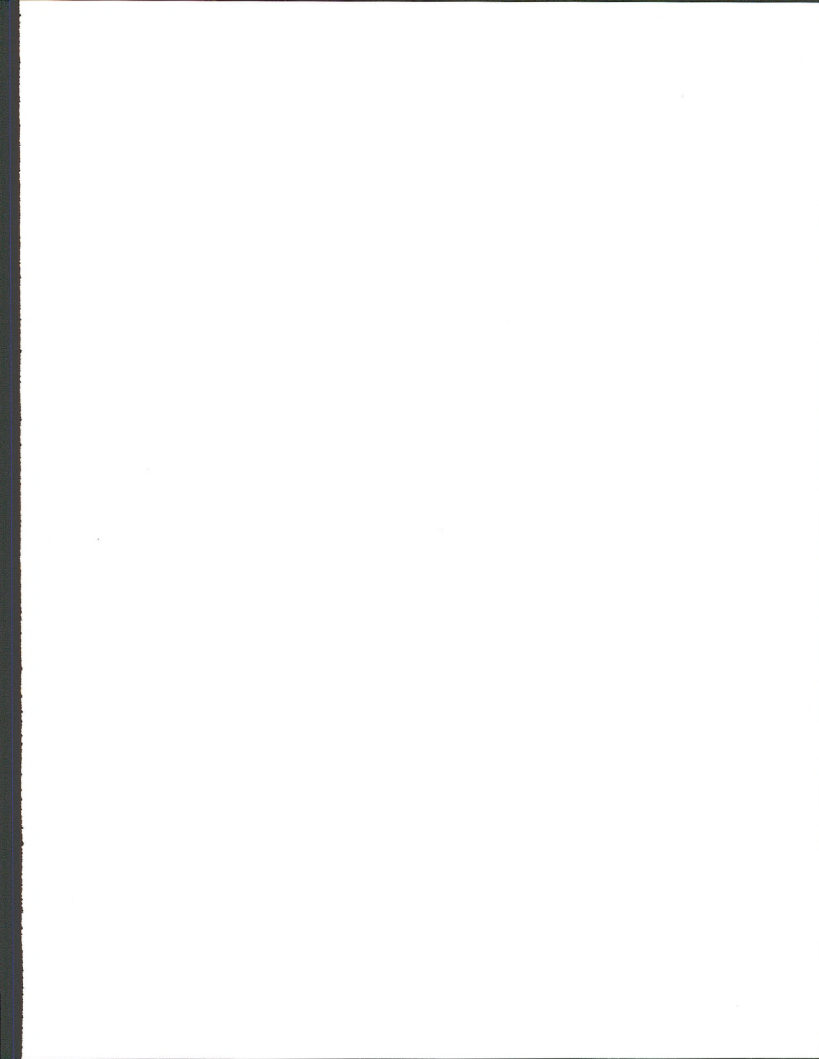
UTAH - Uintah County				
	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Total Population	18,450	19,000	19,000	20,650
% from previous year		2.9	4.2	4.2
Labor Force	7,058	8,706	8,560	8,460
% from previous year		16.2	4.3	(1.1)
Employed	6,766	7,881	8,230	8,139
Unemployed	292	525	330	321
Unemployment Rate (%)	4.1	4.0	3.9	3.8
Non-Agricultural Employment	5,881	6,618	11,974	6,844
% Distribution	100.0	100.0	100.0	100.0
Manufacturing	306	295	238	181
%	5.2	4.5	2.0	2.6
Mining	1,170	1,457	1,563	1,607
%	19.9	22.0	13.1	23.5
Contract Construction	283	423	500	270
%	4.8	6.4	4.2	3.9
Transportation, public utilities				
Communication	481	478	5,520	611
%	8.2	7.2	46.1	8.9
Trade	1,359	1,382	1,425	1,408
%	23.1	20.9	11.9	20.6
Finance, insurance, real estate	109	127	148	156
%	1.9	1.9	1.2	2.3
Government	1,065	1,263	1,283	1,152
%	17.8	19.1	10.7	16.8
Services	1,128	1,193	1,297	1,459
%	19.2	18.0	10.8	21.3

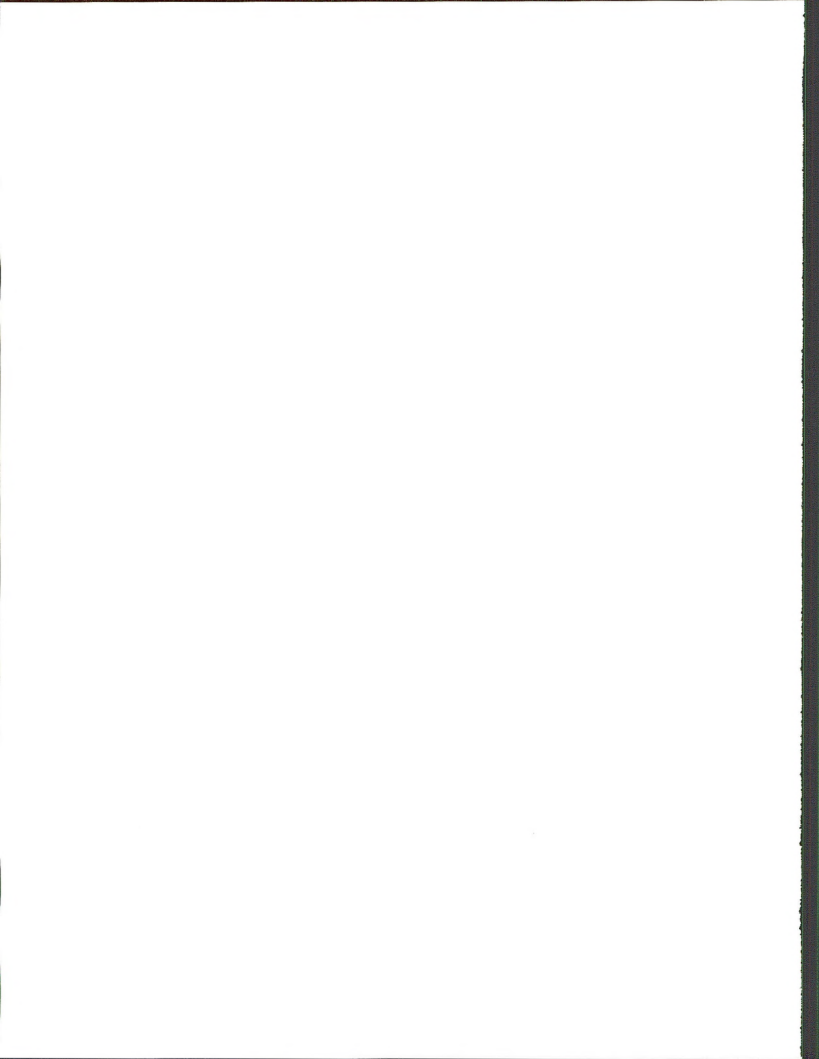
NA - Not Available

Source: Department of Employment Security









APPENDIX H

Colorado Preliminary Data  
Rio Blanco and Moffat Counties

# COUNTY POPULATION PROJECTIONS

MOFFAT AND RIO BLANCO COUNTIES

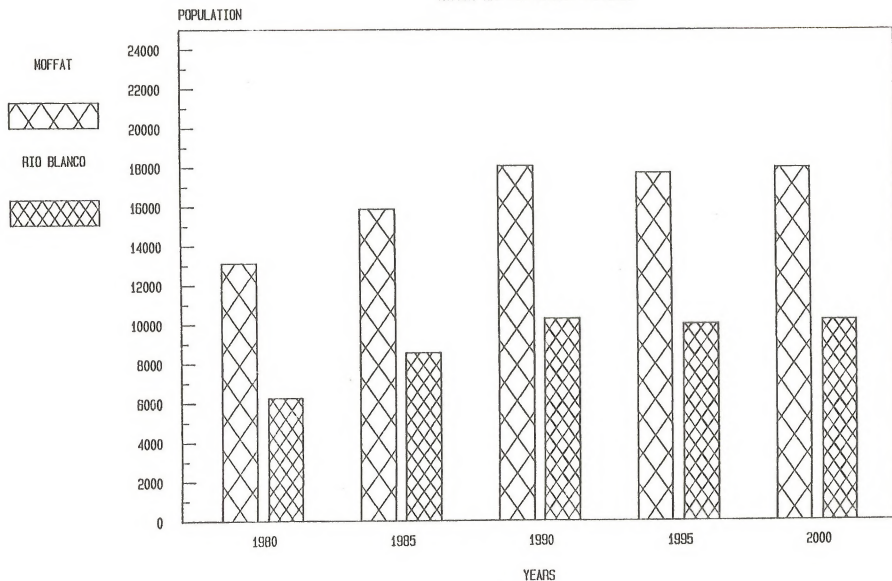


FIGURE II-1

TABLE H-1  
Moffat County  
Preliminary Baseline Projections\*

Years	Population	Basic Employment	Total Employment	Households <sup>1</sup>	School Age Population
1980	13,133	3,845	6,780	4,608	2,896
1981	14,899	4,377	7,657	5,228	3,262
1982	16,045	4,710	8,182	5,630	3,505
1983	15,662	4,489	7,955	5,495	3,403
1984	15,331	4,363	7,761	5,379	3,338
1985	15,862	4,527	7,986	5,566	3,503
1986	15,585	4,427	7,828	5,468	3,506
1987	16,693	4,837	8,403	5,857	3,804
1988	17,495	5,051	8,794	6,139	4,016
1989	16,346	4,547	8,148	5,735	3,807
1990	18,075	5,129	9,006	6,342	4,211
1991	18,900	5,419	9,411	6,632	4,408
1992	17,486	4,845	8,638	6,135	4,097
1993	17,476	4,847	8,637	6,132	4,108
1994	17,592	4,878	8,690	6,173	4,150
1995	17,690	4,907	8,742	6,207	4,144
1996	17,729	4,935	8,790	6,221	4,118
1997	17,770	4,959	8,835	6,235	4,082
1998	17,826	4,993	8,892	6,255	4,048
1999	17,889	5,026	8,949	6,277	4,007
2000	17,953	5,057	9,007	6,299	3,941

\*These projections are unofficial and not for release until sign-off by the Colorado Impact Task Force.

<sup>1</sup> Households were estimated based on a constant average household size from the 1980 Census.

TABLE H-2

Rio Blanco County  
Preliminary Baseline Projections\*

Years	Population	Basic Employment	Total Employment	Households <sup>1</sup>	School Age Population
1980	6,255	2,130	4,789	2,187	1,438
1981	6,681	2,317	5,034	2,336	1,465
1982	7,889	2,785	5,669	2,758	1,668
1983	8,727	3,127	6,102	3,051	1,825
1984	8,290	2,968	5,863	2,899	1,737
1985	8,493	3,026	5,947	2,970	1,796
1986	8,591	3,027	5,955	3,004	1,845
1987	9,029	3,203	6,177	3,157	1,958
1988	9,589	3,404	6,453	3,353	2,101
1989	9,537	3,339	6,397	3,335	2,120
1990	10,270	3,619	6,761	3,591	2,306
1991	10,589	3,750	6,914	3,702	2,401
1992	10,010	3,478	6,581	3,500	2,293
1993	9,812	3,392	6,465	3,431	2,266
1994	9,884	3,414	6,497	3,456	2,303
1995	9,956	3,438	6,531	3,481	2,320
1996	9,998	3,454	6,554	3,496	2,335
1997	10,049	3,470	6,579	3,514	2,345
1998	10,095	3,486	6,602	3,530	2,340
1999	10,154	3,505	6,623	3,550	2,325
2000	10,191	3,523	6,655	3,563	2,296

\*These projections are unofficial and not for release until sign-off by the Colorado Impact Task Force.

<sup>1</sup> Households were estimated based on a constant average household size from the 1980 Census.

TABLE H-3  
Population by Age by County  
Rio Blanco County

Age	1980	1985	1990	1995	2000
0-4	614	900	1,027	868	810
5-14	1,046	1,426	1,860	1,857	1,761
15-19	653	617	743	771	891
20-29	1,277	1,695	1,653	1,217	1,279
30-39	901	1,468	1,966	1,792	1,394
40-49	629	971	1,299	1,498	1,766
50-64	717	980	1,233	1,346	1,550
65+	418	428	482	600	733
Total	6,255	8,485	10,263	9,949	10,184

Moffat County

Age	1980	1985	1990	1995	2000
0-4	1,376	1,758	1,723	1,484	1,398
5-14	2,237	2,785	3,411	3,276	2,965
15-19	1,099	1,196	1,333	1,446	1,627
20-29	2,926	2,739	2,624	2,227	2,335
30-39	2,153	3,116	3,484	2,728	2,170
40-49	1,276	1,768	2,476	3,017	3,136
50-64	1,324	1,680	2,043	2,294	2,908
65+	742	815	975	1,209	1,407
Total	13,133	15,857	18,069	17,681	17,946



TABLE H-4  
Preliminary Population Projections  
Colorado Communities

Year	Rangely	Dinosaur
1980	2,126	312
1981	2,323	356
1982	3,235	451
1983	3,519	475
1984	3,055	423
1985	3,193	501
1986	3,277	440
1987	3,337	435
1988	3,577	396
1989	3,703	394
1990	3,993	405
1991	4,030	413
1992	3,885	416
1993	3,725	420
1994	3,766	423
1995	3,805	425
1996	3,337	429
1997	3,870	433
1998	3,902	435
1999	3,935	436
2000	3,962	437

TABLE H-5  
Baseline Employment Projections By Sector  
Moffat County - 1984 to 2000

Sectors	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	2000
Agriculture	448	440	435	431	426	422	417	413	409	405	401	397	378
Mining	1,409	1,426	1,339	1,357	1,381	1,400	1,425	1,435	1,444	1,455	1,467	1,479	1,527
Construction	987	1,069	1,055	1,431	1,447	842	1,217	1,482	809	792	805	816	882
Manufacturing	330	394	397	415	605	677	876	888	964	966	970	975	998
Trans., Commun. & Utilities	723	729	725	742	755	750	771	786	776	777	780	782	794
Wholesale & Retail Trade	1,513	1,537	1,515	1,571	1,629	1,583	1,673	1,713	1,650	1,653	1,663	1,673	1,726
Finance, Insurance & Real Estate	201	205	203	211	219	211	226	232	221	221	222	223	229
Services	623	644	630	671	709	674	738	768	722	724	731	738	775
Government	714	720	714	731	750	735	764	776	755	755	757	759	771
Non-farm Proprietors, plus other	807	818	811	839	869	849	895	914	884	884	889	894	921

TABLE 11-6

Baseline Employment Projections By Sector  
Rio Blanco County - 1984 to 2000

Sectors	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	2000
Agriculture	265	253	257	254	251	249	246	244	241	238	236	233	221
Mining	2,057	2,248	2,318	2,405	2,428	2,477	2,502	2,576	2,612	2,632	2,654	2,676	2,753
Construction	1,307	1,155	1,682	1,199	1,340	1,191	1,385	1,434	1,105	1,004	1,004	1,005	1,007
Manufacturing	51	64	61	63	126	152	215	215	235	231	231	232	234
Transp., Comm. & Utilities	306	330	343	320	298	303	210	321	320	319	320	322	329
Wholesale and Retail Trade	457	463	465	480	505	508	536	544	524	514	518	522	537
Finance, Insurance, & Real Estate	41	41	41	43	49	49	55	56	51	49	49	50	52
Services	237	236	235	245	268	272	296	300	282	272	275	278	291
Government	756	760	763	770	779	782	793	795	789	786	787	788	792
Non-Farm Proprietors, plus other	381	385	387	395	405	408	420	425	418	416	418	422	435

APPENDIX J

County Population By Age

TABLE J-1

DUCHESNE COUNTY  
Population by Age  
Selected Years

AGE	1986	1993	2000
0-4	2,716	2,403	2,117
5-9	2,257	2,435	1,991
10-14	1,707	2,200	2,101
15-19	1,235	1,599	1,888
20-24	1,341	1,119	1,404
25-29	1,690	1,112	1,028
30-34	1,655	1,394	835
35-39	1,234	1,496	1,067
40-44	884	1,179	1,264
45-49	738	876	1,191
50-54	601	712	873
55-59	549	553	676
60-64	480	488	545
65-69	364	416	439
70-74	292	305	364
75-79	190	216	257
80-84	107	139	156
85 +	58	71	98
TOTAL	18,098	18,712	18,292
AGE	SCHOOL-AGE POPULATION		
5-14	3,964	4,635	4,092
15-17	807	1,082	1,233
	POPULATION OVER 65 YEARS		
65 +	1,011	1,147	1,314

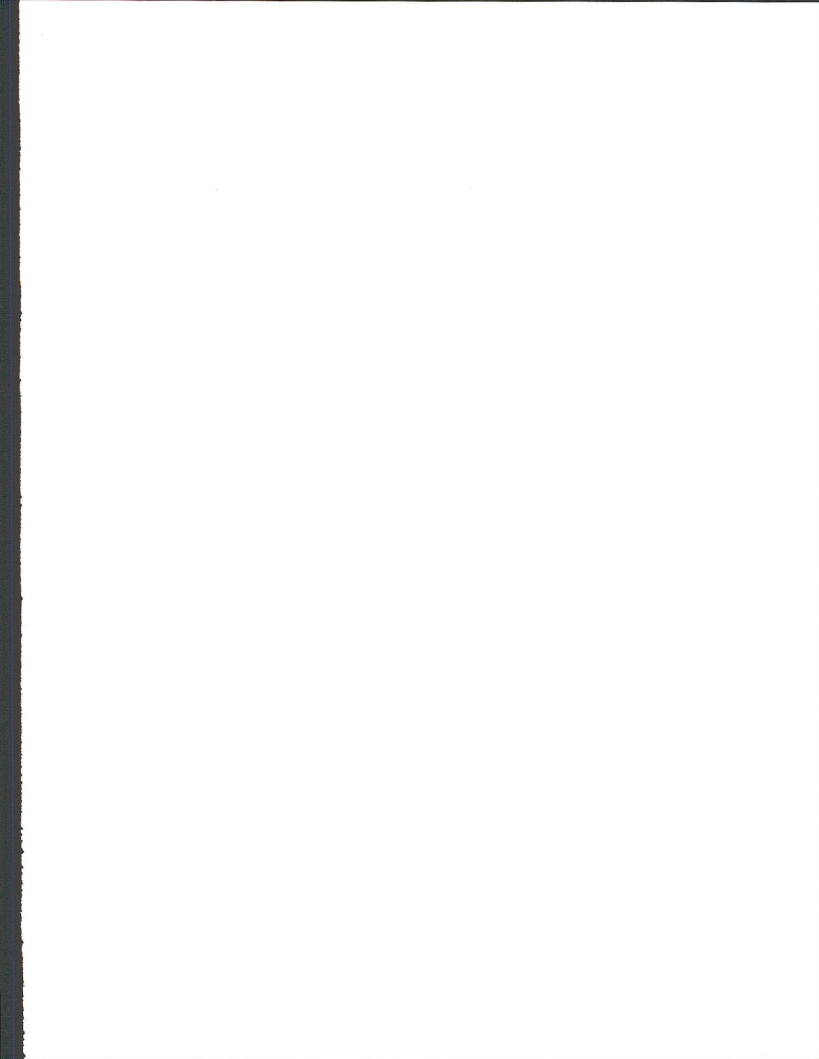
TABLE J-2  
GRAND COUNTY  
Population by Age  
Selected Years

AGE	1986	1993	2000
0-4	1,413	1,074	923
5-9	1,188	1,188	926
10-14	901	1,207	1,037
15-19	708	984	1,025
20-24	839	706	806
25-29	1,017	587	606
30-34	966	734	506
35-39	654	859	624
40-44	481	809	744
45-49	370	547	705
50-54	343	397	475
55-59	319	299	341
60-64	310	266	251
65-69	279	232	215
70-74	240	207	177
75-79	158	163	146
80-84	88	110	99
85 +	53	65	69
TOTAL	10,328	10,432	9,676
AGE	SCHOOL-AGE POPULATION		
5-14	2,089	2,395	1,963
15-17	520	637	640
	POPULATION OVER 65 YEARS		
65 +	818	777	706

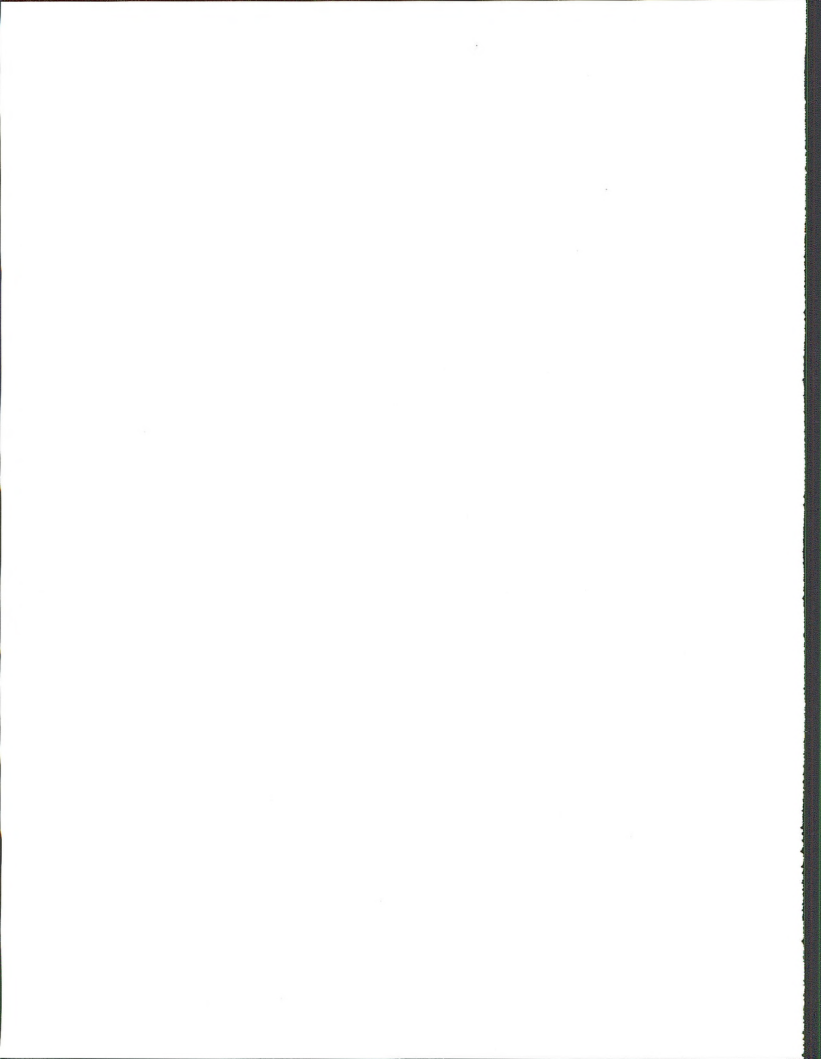
TABLE J-3

UINTAH COUNTY  
Population by Age  
Selected Years

AGE	1986	1993	2000
0-4	3,978	3,850	3,355
5-9	3,304	3,902	3,154
10-14	2,499	3,525	3,329
15-19	1,809	2,563	2,992
20-24	1,964	1,793	2,224
25-29	2,474	1,781	1,629
30-34	2,423	2,233	1,324
35-39	1,806	2,396	1,690
40-44	1,294	1,889	2,003
45-49	1,081	1,403	1,887
50-54	879	1,141	1,384
55-59	804	886	1,071
60-64	703	782	863
65-69	533	667	696
70-74	427	489	577
75-79	278	346	407
80-84	157	222	246
85 +	85	114	156
TOTAL	26,500	29,982	28,985
AGE	SCHOOL-AGE POPULATION		
5-14	5,803	7,427	6,483
15-17	1,182	1,734	1,954
	POPULATION OVER 65 YEARS		
65 +	1,480	2,838	2,082







APPENDIX K

Projections By  
Census County Division

TABLE K-1  
Baseline Project on  
Duchesne Census County Division  
Duchesne County

Years	Population	Basic Employment	Total* Employment
1980	1,839	279	1,342
1981	3,365	1,474	1,904
1982	3,446	1,493	1,944
1983	3,597	1,580	2,059
1984	3,936	1,537	2,365
1985	4,083	1,807	2,463
1986	3,914	1,695	2,241
1987	3,611	1,375	1,895
1988	3,553	1,279	1,801
1989	3,514	1,208	1,732
1990	3,375	1,228	1,760
1991	3,627	1,231	1,771
1992	3,658	1,235	1,779
1993	3,673	1,240	1,785
1994	3,681	1,245	1,789
1995	3,679	1,250	1,792
1996	3,677	1,257	1,796
1997	3,670	1,265	1,800
1998	3,665	1,273	1,805
1999	3,660	1,281	1,811
2000	3,656	1,290	1,817

\* Total employment includes both basin employment and residuary employment.

TABLE K-2  
Baseline Project on  
Roosevelt Census County Division  
Duchesne County

Years	Population	Basic Employment	Total* Employment
1980	9,726	1,897	3,551
1981	11,258	2,077	4,066
1982	11,827	2,122	4,180
1983	12,417	2,145	4,331
1984	13,402	2,201	4,581
1985	13,695	2,269	4,740
1986	14,184	2,446	5,005
1987	14,562	2,643	5,274
1988	15,067	2,772	5,494
1989	15,163	2,741	5,501
1990	15,057	2,608	5,372
1991	15,002	2,516	5,284
1992	15,039	2,498	5,276
1993	15,039	2,494	5,272
1994	15,045	2,503	5,279
1995	15,005	2,513	5,278
1996	14,948	2,525	5,275
1997	14,865	2,538	5,271
1998	14,791	2,552	5,269
1999	14,712	2,566	5,269
2000	14,636	2,581	5,268

\* Total employment includes both basin employment and residentiary employment.

TABLE K-3  
Baseline Project on  
Moab Census County Division  
Grand County

Years	Population	Basic Employment	Total* Employment
1980	7,915	1,813	3,359
1981	8,467	1,895	3,542
1982	8,889	1,974	3,725
1983	9,301	2,049	3,904
1984	9,811	2,138	4,121
1985	9,470	2,057	4,035
1986	9,951	2,146	4,212
1987	10,006	2,134	4,220
1988	10,078	2,132	4,240
1989	10,147	2,136	4,264
1990	10,204	2,146	4,289
1991	10,218	2,141	4,297
1992	10,246	2,161	4,324
1993	10,068	2,133	4,267
1994	9,950	2,130	4,244
1995	9,958	2,125	4,243
1996	9,819	2,123	4,215
1997	9,654	2,121	4,184
1998	9,506	2,120	4,158
1999	9,460	2,157	4,184
2000	9,311	2,117	4,122

\* Total employment includes both basin employment and residuary employment.

TABLE K-4  
Baseline Project on  
Thompson Census County Division  
Grand County

Years	Population	Basic Employment	Total* Employment
1980	326	104	111
1981	345	108	115
1982	348	108	117
1983	352	109	118
1984	358	111	121
1985	380	121	129
1986	377	119	128
1987	375	117	126
1988	372	116	125
1989	369	115	124
1990	366	114	122
1991	364	113	122
1992	364	114	123
1993	364	114	123
1994	364	115	124
1995	366	116	125
1996	365	116	125
1997	364	117	126
1998	363	118	127
1999	363	119	128
2000	365	121	129

\* Total employment includes both basin employment and residential employment.

TABLE K-5  
Baseline Project on  
Vernal Census County Division  
Uintah County

Years	Population	Basic Employment	Total* Employment
1980	16,168	3,890	6,954
1981	18,145	4,292	7,730
1982	19,417	4,396	8,127
1983	20,568	4,476	8,464
1984	22,082	4,558	8,887
1985	20,653	4,634	8,853
1986	21,287	4,722	9,079
1987	21,958	4,827	9,324
1988	22,527	4,911	9,537
1989	23,097	5,000	9,751
1990	23,611	5,096	9,950
1991	23,979	5,109	10,037
1992	24,160	5,123	10,085
1993	24,204	5,137	10,105
1994	24,199	5,152	10,110
1995	24,117	5,167	10,101
1996	24,002	5,186	10,088
1997	23,845	5,206	10,069
1998	23,701	5,227	10,057
1999	23,552	5,243	10,045
2000	23,404	5,270	10,034

\* Total employment includes both basin employment and residientary employment.

TABLE K-6  
Baseline Project on  
Uintah-Ouray Census County Division  
Uintah County

Years	Population	Basic Employment	Total* Employment
1980	4,338	993	1,243
1981	4,610	999	1,271
1982	4,737	998	1,286
1983	4,852	998	1,299
1984	4,976	999	1,315
1985	5,061	999	1,327
1986	5,197	1,000	1,339
1987	5,333	1,000	1,352
1988	5,459	1,001	1,365
1989	5,585	1,001	1,377
1990	5,699	1,002	1,386
1991	5,746	1,002	1,390
1992	5,764	1,002	1,391
1993	5,762	1,002	1,391
1994	5,752	1,002	1,389
1995	5,730	1,003	1,386
1996	5,703	1,004	1,383
1997	5,668	1,006	1,380
1998	5,634	1,007	1,378
1999	5,599	1,009	1,375
2000	5,565	1,011	1,373

\* Total employment includes both basin employment and residuary employment.



TABLE K-7

Baseline Project on  
Bonanza Census County Division  
Uintah County

Years	Population	Basic Employment	Total* Employment
1980	16	285	286
1981	16	553	555
1982	16	802	803
1983	16	1,051	1,053
1984	16	1,404	1,406
1985	16	403	405
1986	16	402	404
1987	16	401	403
1988	16	400	402
1989	16	399	401
1990	16	398	400
1991	16	398	400
1992	16	397	400
1993	16	397	399
1994	16	397	399
1995	16	397	399
1996	16	397	399
1997	16	397	399
1998	16	397	400
1999	16	393	400
2000	16	398	400

\* Total employment includes both basin employment and residuary employment.

APPENDIX L  
GRAND COUNTY  
PROJECTIONS

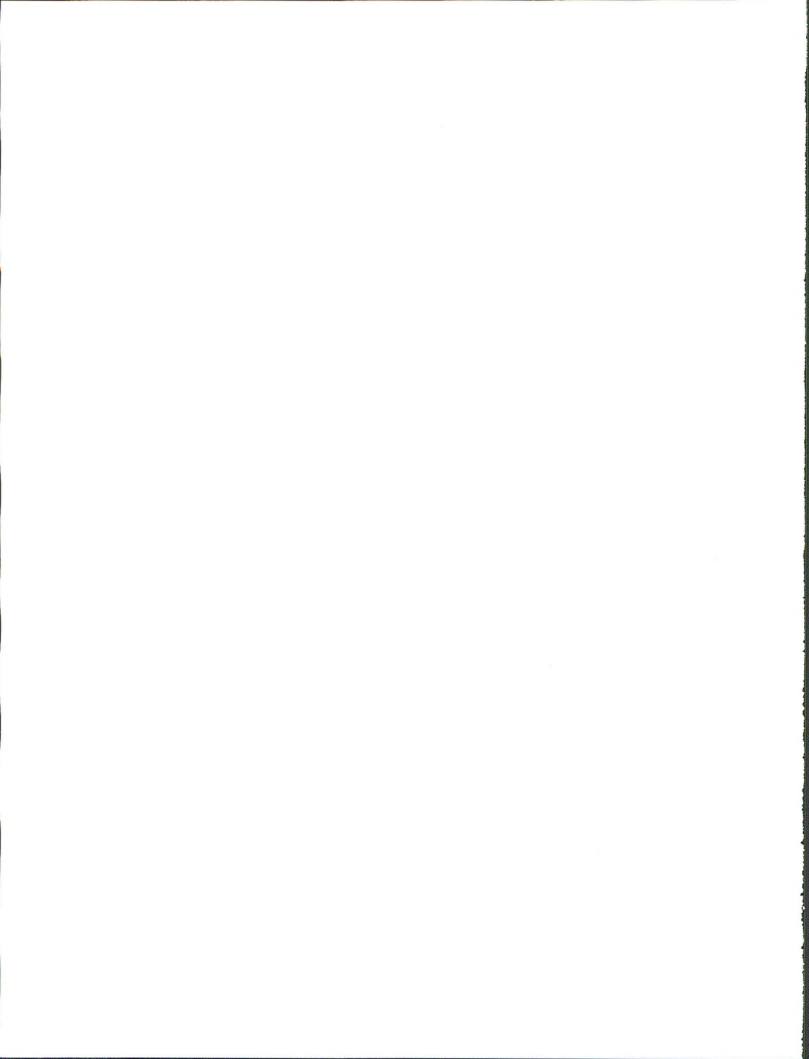


TABLE L-1

GRAND COUNTY  
Baseline Projections

YEARS	POPULATION	BASIC EMPLOYMENT	TOTAL EMPLOYMENT <sup>2</sup>	HOUSEHOLDS	SCHOOL AGE POP. (5-17)
1980	8,241	1,917	3,470	2,570	1,743
1981	8,812	2,003	3,657	2,745	1,851
1982	9,237	2,082	3,842	2,876	1,940
1983	8,953	2,158	4,022	3,002	2,045
1984	10,169	2,249	4,242	3,162	2,190
1985	9,850	2,178	4,164	3,059	2,159
1986	10,328	2,265	4,340	3,190	2,332
1987	10,381	2,251	4,346	3,194	2,420
1988	10,450	2,248	4,365	3,205	2,510
1989	10,516	2,251	4,388	3,209	2,586
1990	10,570	2,260	4,411	3,216	2,660
1991	10,582	2,245	4,419	3,216	2,726
1992	10,610	2,275	4,447	3,225	2,789
1993	10,432	2,247	4,390	3,171	2,781
1994	10,314	2,245	4,368	3,135	2,771
1995	10,324	2,241	4,368	3,148	2,777
1996	10,184	2,239	4,340	3,114	2,728
1997	10,018	2,238	4,310	3,082	2,656
1998	9,869	2,238	4,285	3,064	2,580
1999	8,953	2,276	4,312	2,798	2,294
2000	9,676	2,238	4,251	3,043	2,423

<sup>1</sup> Projections from UPED and SAM models, Utah State Planning Coordinator Office and Bureau of Economic and Business Research, University of Utah, 1982.

<sup>2</sup> Total employment is the sum of basic and residuary.

Table L-2  
Baseline Employment Projections By Sector  
Grand County - 1984 to 2000

Sectors	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	2000
Agriculture	40	38	38	36	34	32	30	30	28	28	26	26	22
Mining	1,006	899	899	899	899	899	899	900	926	903	902	904	911
Construction	249	251	317	288	265	249	235	232	231	226	224	223	215
Manufacturing	145	147	151	154	157	159	162	162	162	162	161	161	160
Transp., Commun., & Utilities	254	259	275	280	285	289	294	296	297	296	295	296	292
Wholesale & Retail Trade	912	926	951	958	968	976	984	985	986	979	974	975	948
Finance, Insurance, Real Estate	91	93	96	97	99	101	102	103	103	103	102	103	101
Services	603	613	636	649	663	677	692	695	695	693	691	691	681
Government	653	651	681	689	699	707	712	715	715	705	695	691	634
Non-Farm Proprietors	290	289	297	298	300	301	303	303	302	300	298	299	289

TABLE L-3  
GRAND COUNTY  
Average Monthly Non-Agricultural Wages By Sector  
1975-1980

	1975	1976	1977	1978	1979	1980
Mining	1,379	1,435	1,441	1,550	1,594	1,601
Construction	1,496	1,954	1,666	1,458	1,342	1,702
Manufacturing	1,067	675	629	674	734	714
Transportation, Communications and Utilities	1,496	1,500	1,507	1,400	1,362	1,279
Trade	890	846	806	800	794	796
Finance, Insurance and Real Estate	841	888	958	1,019	1,004	973
Services	617	576	569	612	643	662
Government	1,039	1,189	1,193	1,157	1,116	1,054

Source: Utah Department of Employment Security

TABLE L-4  
TOTAL AND PER CAPITA PERSONAL INCOME BY COUNTY  
UTAH 1970-1979  
(in 1980 dollars)

Year	Grand County	
	Personal Income (thousands of dollars)	Per Capita Personal Income
1970	39,403	5,892
1971	35,112	5,483
1972	41,129	6,323
1973	48,615	7,516
1974	49,563	7,653
1975	52,780	7,645
1976	59,927	8,217
1977	63,189	8,242
1978	69,211	8,529
1979	68,152	8,555

Sources: Bureau of Economic Analysis, U.S. Department of Commerce, Bureau of the census.

TABLE L-5

PER CAPITA PERSONAL INCOME (PCPI) AND COUNTY PCPI RELATIVE TO THE STATE.  
 GRAND COUNTY 1970-1979  
 (in 1980 dollars)

Year	PCPI Utah	Grand County	
		Per Capita Personal Income	Ratio <u>County</u> <u>State</u>
1970	6,781	5,892	.869
1971	6,935	5,483	.791
1972	7,290	6,323	.867
1973	7,492	7,516	1.003
1974	7,377	7,653	1.037
1975	7,333	7,645	1.043
1976	7,621	8,217	1.078
1977	7,839	8,242	1.051
1978	8,028	8,529	1.062
1979	7,933	8,555	1.078

Sources: Bureau of Economic Analysis, U.S. Department of Commerce, Bureau of the census.



TABLE L-6  
 BASELINE PERSONAL INCOME PROJECTIONS  
 Utah - Grand County  
 (in 1980 dollars; Total in Thousand of Dollars)

Year	Per Capita	Grand County	
		Total	Personal
1985	8,932	87,980	
1986	9,087	93,851	
1987	9,245	95,972	
1988	9,406	98,293	
1989	9,570	100,638	
1990	9,736	102,910	
1991	9,905	104,815	
1992	10,078	106,928	
1993	10,253	106,959	
1994	10,431	107,585	
1995	10,613	109,569	
1996	10,797	109,957	
1997	10,985	110,048	
1998	11,176	110,296	
1999	11,370	101,796	
2000	11,568	111,932	

Source: Developed from historical per capita personal income from Bureau of Economic Analysis, U.S. Department of Commerce, Bureau of the Census.

For projections of population, the UPED model was used.

TABLE L-7

GRAND COUNTY  
High Level Development Scenario  
Summary of Impacts  
(Addition to Baseline)

Year	Population	Employment	Impact	Households	School-Age Population (5-17)
	Impact	Total	Basic	Impact	Impacts
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	1,298	874	715	434	262
1985	4,032	2,717	2,215	1,367	802
1986	3,098	2,072	1,685	1,043	619
1987	3,478	2,302	1,855	1,155	689
1988	2,981	1,863	1,465	981	583
1989	3,186	1,900	1,450	1,021	613
1990	3,094	1,770	1,325	970	591
1991	3,478	2,000	1,500	1,087	692
1992	3,674	2,028	1,500	1,113	776
1993	3,838	2,052	1,500	1,163	869
1994	3,886	2,061	1,500	1,143	939
1995	3,963	2,076	1,500	1,166	1,018
1996	4,029	2,090	1,500	1,185	1,100
1997	4,078	2,102	1,500	1,165	1,166
1998	4,111	2,111	1,500	1,175	1,220
1999	4,130	2,118	1,500	1,180	1,261
2000	4,142	2,123	1,500	1,183	1,294

TABLE L-8

GRAND COUNTY  
High Development Scenario  
Employment Impacts by Industry

Industry	1985	1990	1993	1995	2000
Agriculture	0	0	0	0	0
Mining (including Synfuels)	1	1,326	1,501	1,501	1,501
Contract Construction	2,265	45	57	59	64
Manufacturing	9	8	9	10	10
Transp., Comm., & Utilities	20	18	22	23	24
Wholesale & Retail Trade	122	109	134	138	144
Finance, Insurance & Real Estate	16	15	18	19	20
Services	81	73	92	95	102
Government	154	134	166	176	200
Non-Farm Proprietors	49	43	53	55	58
Total	2,707	1,770	2,052	2,076	2,123

TABLE L-9  
GRAND COUNTY  
Impact of Other Projects\*  
(Addition to Baseline)

Year	Population	Employment	Impact	Households	School-Age Population (5-17)
	Impact	Total	Basic	Impact	Impacts
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	369	238	190	127	75
1985	691	437	345	234	139
1986	1,072	692	545	357	214
1987	758	429	320	253	151
1988	791	434	320	265	158
1989	813	437	320	274	166
1990	834	440	320	278	171
1991	854	444	320	275	178
1992	875	448	320	273	194
1993	893	452	320	268	206
1994	906	455	320	266	220
1995	915	457	320	264	233
1996	920	458	320	263	245
1997	923	459	320	264	256
1998	923	460	320	256	266
1999	921	460	320	256	274
2000	919	460	320	255	280

\* Assumes the construction of a new town at West water.

TABLE L-10  
GRAND COUNTY  
Other Projects  
Employment Impacts By Industry

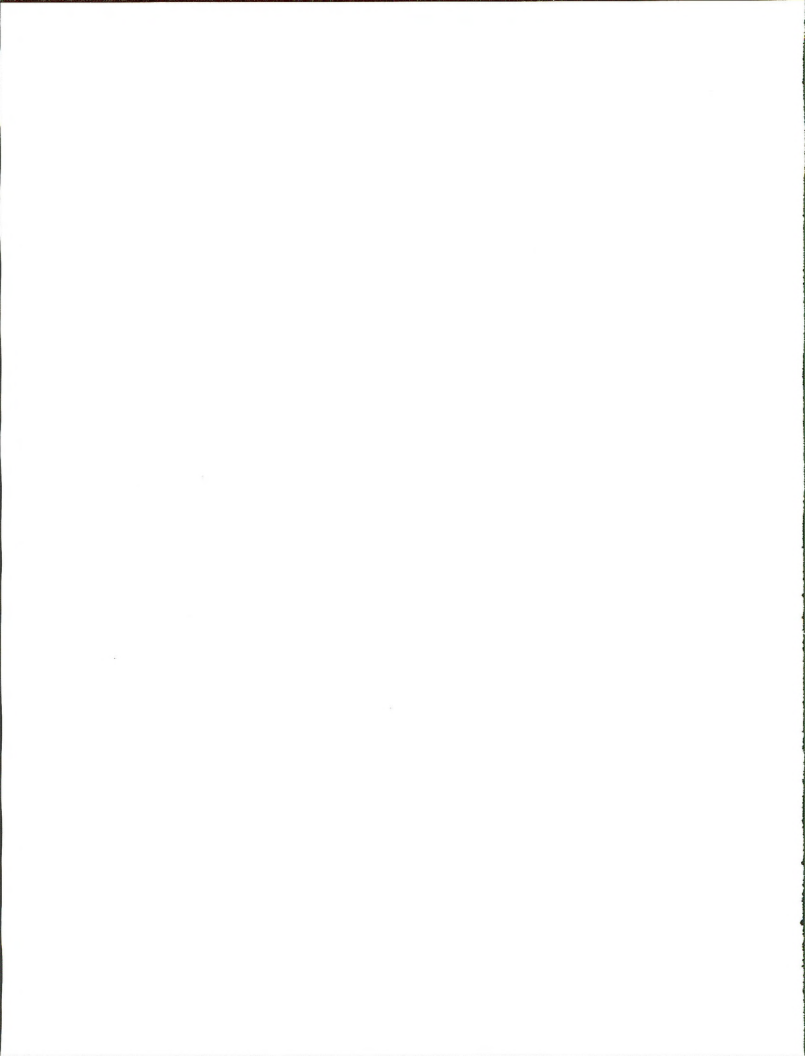
Industry	1985	1990	1993	1995	2000
Agriculture	0	0	0	0	0
Mining (Includes Synfuels)	145	320	320	320	320
Contract Construction	209	12	13	14	14
Manufacturing	2	2	2	2	2
Transp., Communication Utilities	4	5	5	5	5
Trade	23	29	31	32	32
Finance, Insurance, & Real Estate	3	4	4	4	5
Services	15	20	21	22	23
Government	28	36	42	44	46
Non-Farm Proprietors	9	12	12	13	13
TOTAL	437	440	452	457	460

TABLE L-11  
CUMULATIVE IMPACTS  
Total Population Impacts

GRAND COUNTY

	Baseline	Low Scenario	High Scenario	Other* Projects	Baseline +* Low + Other	Baseline+* High + Other
1980	8,241	0	0	0	8,241	8,241
1985	9,850	401	4,032	691	10,345	14,573
1990	10,570	158	3,094	834	10,844	14,498
1993	10,432	169	3,838	893	10,726	15,163
1995	10,324	175	3,963	915	10,628	15,202
2000	9,676	178	4,142	919	9,984	14,737

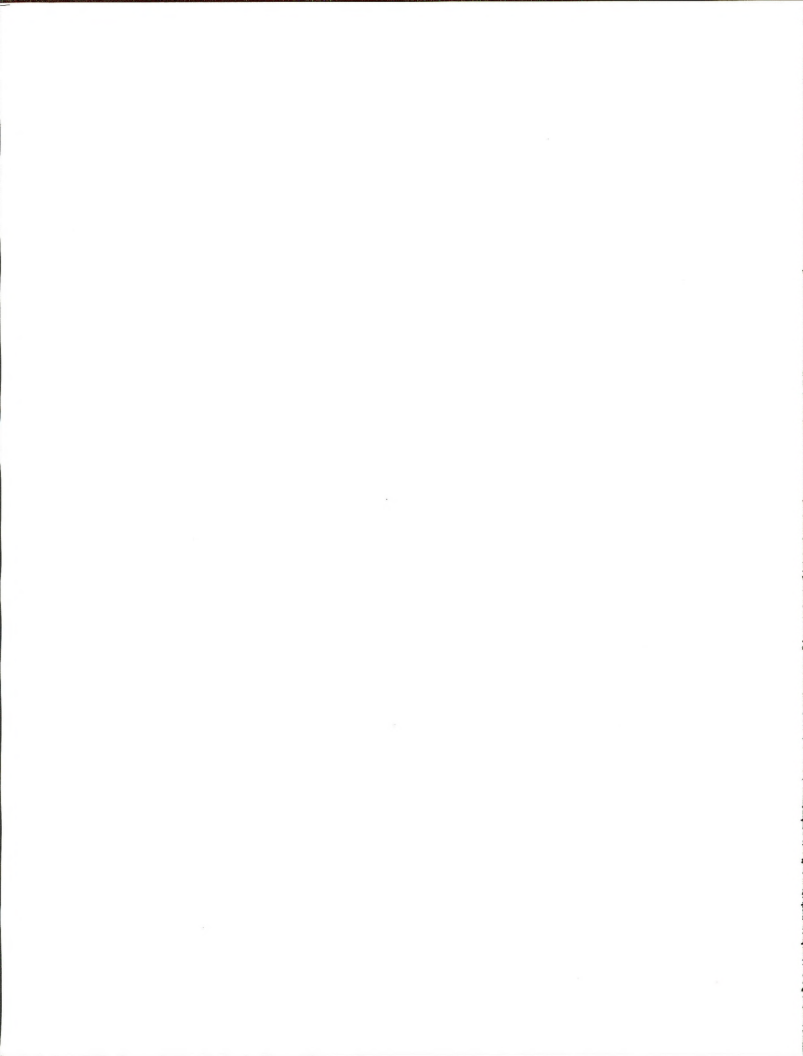
\*It should be noted that the other projects listed here does not apply to the low scenario. Therefore, column five cannot be computed by adding columns 1, 2 & 4.



## APPENDIX M

### COMPUTER MODELS AND ANALYTIC PROCEDURES





## APPENDIX M

### COMPUTER MODELS AND ANALYTIC PROCEDURES

#### The Utah Process Economic & Demographic Impact Model (UPED)

The Utah Process Economic and Demographic Impact Simulation Model (UPED) is the official model used by the Utah State Planning Coordinator's Office to project population and employment growth in the state. <sup>4</sup> UPED is a hybrid of two standard population and economic projection methodologies: (1) the cohort survival model and (2) the economic base model. In the three-component, cohort survival population model, future population levels are projected from base year figures by adding births, subtracting deaths, and adding net in-migration or subtracting net out-migration. The values of each of the three components of population change (births, deaths, and migration) are projected as a function of the initial year values and the resultant increments are added or subtracted to generate the first projection year's values. The process is then repeated to generate the second projection year's values and so on to the last projection year. The population is disaggregated into appropriate sub-groups, called cohorts, whose values are projected over time. In UPED, sex and single year of age cohorts are used. Through the projection years, of course, each cohort ages and its behavior with respect to demand for goods and services, labor force participation, fertility, mortality, and geographic mobility varies with the aging process.

According to the economic base concept, for all but the largest (national-continental regions), the primary determinant of the level of economic activity, and consequently of population size, is the amount of goods and services produced for export to other areas. Increases or decreases in basic (export) employment produce corresponding changes in the number of households deriving their income from these sectors. These changes, in turn, produce changes in the demand for goods and services produced locally for the local consumption. (These local production-local consumption activities are referred to variously as non-basic, service, residentiary, or population

\*Rodger Weaver, et.a., UPED79, Bureau of Economic and Business Research, College of Business, University of Utah and Utah State Planning Coordinator's Office, Salt Lake City, Utah, 1980.

dependent sectors.) Initial changes in population dependent sectors in turn, produce changes in population and in household incomes which generate further changes until, finally, a given projected initial change in basic sector employment will produce a "multiplied" change in population dependent and local employment as well as in population. This process replaces the use of explicit employment and population multipliers which are often employed for the purpose of producing projections. The results of the UPED model can be used to produce implicit multipliers for purposes of comparison.

In UPED, the economic base methodology is adapted to affect population projection through the migration component. Population projections, in turn, generate residentiary employment for each level of basic employment. Thus, the cohort survival and economic base methodologies are combined in UPED to form a complex systems model. The workings of the UPED Model and of its key data requirements are presented in Figure 8. The top three boxes represent the natural increase (births and deaths), again, and the non-employment related part of the migration components of UPED's population project methodology.

The initial (Year  $t$ ) population, consisting of a census-type count or estimate of all people residing in the area by age and sex is adjusted to reflect the temporary absence of some individuals who are permanent residents (an increase) and/or the temporary presence of individuals who are not permanent residents (a decrease). Relevant categories here include college students, military, and LDS missionaries. The resultant estimate of the permanent resident population is then survived by applying cohort specific survival rates. The result is the subset of the initial resident population expected to still be alive the next year. Members of each cohort have aged one year. The aged-survived population is adjusted to reflect projected levels of temporary absence (a decrease) or presence (an increase) and permanent non-employment related in-(increase) and out-(decrease) migration. Total births are projected by applying a vector of age specific birth rates to the female component of this adjusted aged-survived population. Infants' sex composition and infant mortality are also projected at this stage. The result of these calculations, as shown in Box 3, is the Adjusted Natural Increase Population at Year  $t+1$ , which becomes the initial estimate of population in that year (Box 4).

# GENERAL FLOW CHART UPED MODEL

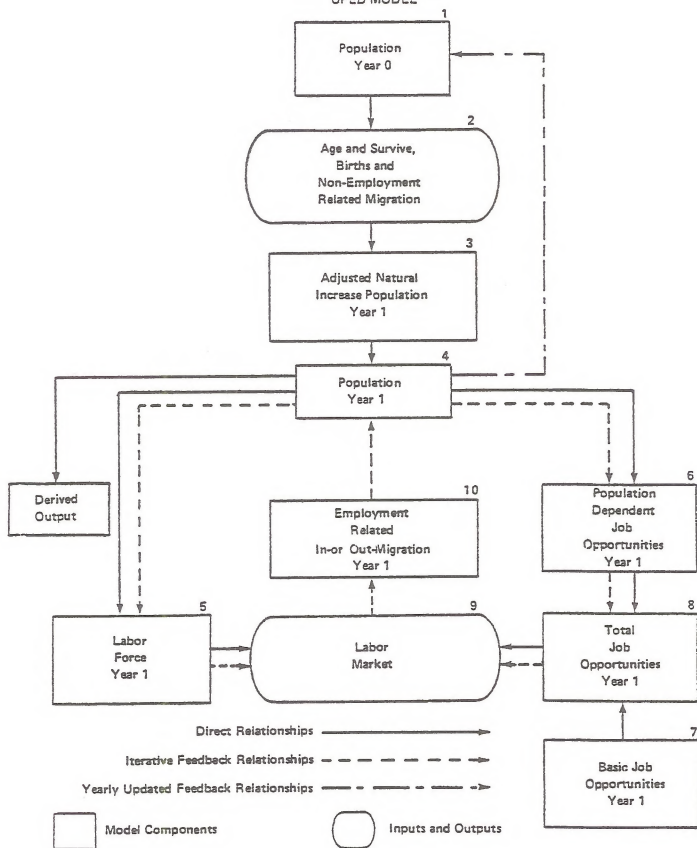


FIGURE 3

This first approximation population projection is the source of two elements of Labor Market Analysis: (1) the initial (pre-employment related migration) Labor Force and (2) initial Population Dependent Job Opportunities at Year t+1 (Boxes 5 and 6, respectively). The Labor Force is derived by applying projected age and sex specific labor force participation rates to the projected population. The projected participation rates are dependent upon both extrapolations of their secular trends and year-to-year changes in area economic opportunity.

Population dependent job opportunities are projected as dependent upon (1) the size and age composition of the population, (2) projected sector specific ratios of area per capita residentiary employment to national employment per capita, and (3) projections of national residentiary employment by sector and/or national population by cohort. Thus, changes in the size and/or demographic composition of the population, in the capability of the area to produce goods and services for its own consumption, and/or national economic and demographic conditions can all influence the projection of each sectors population dependent job opportunities. The most critical operational assumptions here are the local-national per capita residentiary employment relatives. Of special importance is the ability to adjust these assumptions to reflect structural changes as market expansion leads to import substitution possibilities.

As Box 7 indicates, basic employment demand is exogenously projected by sector and treated parametrically in UPED. These projections of basic employment are varied to reflect the different economic developments to be analyzed. For example, to project the impacts of a particular power plant, the direct basic employment by industrial sector involved in constructing and operating the plant would be added to a baseline basic employment projections and the sum would serve as the basic job opportunities input for that power plant's UPED run.

Basic and population dependent job opportunities are summed to produce Total Job Opportunities at Year t+1 (Box 8). This, initial value for both the supply of and demand for labor are introduced into the Labor Market component of UPED, where they are used to calculate the projected unemployment rate as an index of the area's economic opportunities. This rate is compared against a parametrically established "normal" range of unemployment rates. If it is higher than the upper bound of the range--the out-migration triggering rate--

this is taken to indicate inadequate opportunities for the natural increase population and Employment related Out-Migration at  $t+1$  is projected. Alternatively, if it is below the lower bound--the in-migration triggering prosperity is indicated and Employment Related In-Migration at Year  $t+1$  is projected.

The amount of migration projected is sufficient to provide the labor force required to adjust the unemployment rate to the relevant triggering rate, assuming no change in population dependent job opportunities. The demographic detail of this migration reflects cohort difference in (1) labor force participation rates, (2) migration propensities, and (3) the composition of the source population (local population for out-migration, national population for in-migration).

Of course, the assumption stressed in the previous paragraph, that job opportunities do not change as a result of migration, is invalid. The migration of workers and their families either increases or decreases population dependent job opportunities. This first round migration will prove insufficient to adjust the unemployment rate to the relevant bound of normal range, and further migration in the same direction must be projected. The short dash arrows in Figure 7 indicate the interactive nature of the UPED solution to this inter-dependence problem. The iterative process continues until the calculated unemployment rate is satisfactorily close to the relevant triggering rate, at which time solution is achieved and no further migration or employment changes are calculated. Final population, migration, and employment outputs are presented with the former being used to derive projections of households, labor force, and school age population. The solution value for projected population is then fed back into the Model (long dash arrow in Figure 4) to serve as the initial population vector for the next projection year.

## THE SPATIAL ALLOCATION MODEL (SAM)

The Spatial Allocation Model (SAM) is a computerized process for distributing MCD-level UPED projections of population and employment among constituent CCD's. SAM allocates total regional population and sector specific employment among CCD's subject to the employment requirements of the geographically located basic industries and simultaneously consistent with the population-serving residentiary employment.

The allocation of residentiary employment reflects trading patterns among the CCD's based upon the structure of service centers and the distribution of population. This allocation of residentiary employment projections is based upon an important simplifying assumption: the number of jobs required to fulfill residentiary demand for goods and services, on a per capita basis, is independent of the location of both the residences of the population demanding these goods and services and locations of the jobs themselves. In other words, each individual is assumed to demand the same amount of each good or service produced in the MCD regardless of which CCD he lives in and regardless of whether his demand is met by a job located in his CCD of residence or in some other, higher order, market center CCD.

The relationship between the goods and services demanding population of one area, and the allocation to CCD's of total MCD residentiary employment is given by the elements of a "SPINT" (for SPatial INTERaction) matrix. The elements of the SPINT matrix represent the proportion of the total demand exerted by the residents in each area that will be met by jobs located in each area, e.g., a SPINT value of .25 relating demand in one area to supply from another indicates that 25% of the demand exerted by the residents of the demanding area would be met by jobs located in the supply area. (Including, of course, a value for own provision,  $r=c$ ). Producing the SPINT matrices for each industry is the major calibration task in applying SAM. A potential model, linear in distance and employment, is used to calibrate the SPINTs in this application.

Thus, the jobs located in each CCD are the sum of the exogenously allocated basic employment and population-market center structure determined residentiary employment allocation. SAM's population allocation procedure is based, interactively, on the allocation of employment. It is recognized, however, that the CCD in which a job is located need not be the CCD of



residence of the worker holding that job, i.e., the phenomenon of commuting must be dealt with. To accomplish this, a CCD X CCD matrix (COMMUT) is specified for each industry. The elements of the COMMUT matrices are the proportion of jobs in each CCD held by workers living in each CCD (including, of course, the CCD where the jobs are located--the non-commuting workers.)

Application of CCD-specific whole population labor force participation rate and unemployment rate assumptions to the resulting sum of all workers by CCD of residence produces the allocation of the total MCD population projection to the CCD level and completes the allocation procedure. SAM outputs consist of yearly allocations of total population (age and sex detail are not maintained in SAM) and of employment by a 27-sector aggregation of the 66 UPED sectors.

#### THE ENERGY DEVELOPMENT COMMUTING DISTRIBUTION GRAVITY MODEL

The gravity models used by APA Planning and Research to distribute the construction and operations work forces for the respective energy projects among the communities took the general form:

$$NL_i = \frac{A_i}{A_{Total}}$$

Where  $NL_i$  = The proportion of the work force (construction or operations) associated with a given project, residing in community i.

$A_i$  = The attractiveness of community i.

$A_{Total}$  = The sum of  $A_i$  over all the communities (in this case, Roosevelt/ Myton/Ballard, Vernal/Ashley Valley, and Rangely)

The values for  $A_i$  are determined by the function:

$$A_i = \frac{POP_i}{D_{ij}^{B_j}}$$



Where  $A_i$  = Attractiveness of the community.  
 $POP_i$  = Population of community i (1980).  
 $D_{ij}$  = Distance between community i and project j.  
 $B_j$  = Commuting distance elasticity, which measures the responsiveness of workers to distance from the project site.

Studies by the authors of Characteristics and Settlement Patterns of Energy-Related Operating Workers in the Northern Great Plains and Construction Worker Profile produced a commuting distance elasticity ( $B_j$ ) of 1.019 for construction workers. This elasticity for construction workers was used in this study. It was assumed however, that given high gasoline prices and the relatively long distances from any community to the Uintah Basin synfuels projects, the more permanent operations workers would be more sensitive to travel. Therefore a commuting distance elasticity of 2.0 was used for operations workers.

#### Personal Income Projections \*

In order to project county per capita income the historical relationship between county per capita incomes and the state per capita income is analyzed. Three elements are required to utilize this data to produce county income projections: (1) A series for State of Utah per capita personal income must be developed. (2) Specific assumptions regarding the future of county relative to state per capita personal income must be made. (3) County level population projections must be specified.

Fitting an exponential curve to the State of Utah per capita income figures from 1970 to 1979 in Table VI.4 indicates an annual average compound rate of growth of per capita personal income of 1.724 percent per year with a correlation coefficient of .89. Continuing this rate of growth through the year 2000 produces the state per capita personal income figures.

\*The approach for projection of county personal income was developed by the Bureau of Economic and Business Research, University of Utah, Salt Lake City, Utah.

Grand County per capita personal income is presumed to stabilize at 100 percent of the state figures for the entire projection period. This represents a slight decrease for Grand; the current difficulties of the uranium industry in Grand County make such a change reasonable. Duchesne and Uintah Counties per capita incomes have risen relative to the state average through the 1970's. It is anticipated that this trend will continue with Duchesne County per capita personal income reaching 92 percent of the state figure and Uintah County per capita personal income reaching 95 percent of state per capita personal income through the projection period. The county level total personal income projections are based on these assumptions.

The impact on personal income resulting from the construction and operation of the synthetic fuel projects and other proposed projects in the study area is based on changes in numbers of people in the impact area; changes in the number and industrial mix of jobs in the area; changes in per capita property incomes, transfer payments, and personal contributions to social insurance; and changes in wage rates in each industrial sector. The relevant population and industry specific employment figures are the employment and population impact projections which were presented in this report.

Average monthly wages for each industrial sector are projected by selecting a representative 1980 wage payment for that sector for the impact area. This figure is increased at the average annual rate of growth of per capita personal income assumed for the State of Utah (1.724 percent per year) in the baseline personal income projection described above. Projected average monthly wages and personal income are presented in 1980 dollars throughout this discussion.

For the construction phases, average monthly construction wages in Emery County, Utah were used as the base figure. This relatively high figure reflects current power plant construction wages and construction wages paid on non-power plant building projects in markets affected by power plant construction. The level of construction activity in Emery County relative to total employment reflects the type of situation that is projected for the study area with the proposed projects. Both the study area and Emery County are similar in terms of isolated, rural locations within a state that has a right-to-work law. However, to the extent that synthetic fuel plant construction workers are paid differently from their coal fired power plant counterparts, this procedure will distort construction phase wages.

The average monthly wage for each of the other industrial sectors was based on the Carbon County, Utah experience. The assumption is based on the similarities of the development mining as a major economic sector in a relatively isolated rural area. Incomes accruing to individual persons rather than persons as economic producers, are typically categorized as property incomes (interest, rents, dividends) plus transfer payments (unemployment compensation, welfare) minus individual contributions to social insurance. These components are aggregated into a single category. Per capita income in this category in the State of Utah is assumed to be the same percentage of its national counterpart as is per capita personal income as a whole (83 percent). The resultant per capita figure is then increased at the same average annual rate as are the various wage rates to produce projection year per capita property income plus transfer payments minus personal social insurance contribution figures.

## TRANSPORTATION METHODOLOGY

The methodology used for the transportation analysis included trip generation, trip distribution and traffic assignment. No mode split analysis was accomplished. A variety of existing models were evaluated for their accuracy in this analysis. The technique for analyzing value-to-capacity and level-of-service was developed for the Highway Capacity Manual. The following models were used for trip generation and trip distribution.

### Trip Generation:

$$Y_1 = 28.55 + 0.068 (X_1) + 0.00009 (X_2) - 369.8 (X_3) + 78.3 (X_4)$$

where:

- $Y_1$  = total external cordon crossing (in thousands)
- $X_1$  = county population density (in population/square mile)
- $X_2$  = county area multiplied by population of the cities larger than subject city within a 25-mile radius of the city center (population X square miles)
- $X_3$  = reciprocal of the total study area population, and
- $X_4$  = reciprocal of the total study area employment.

and

Trips per Household =  $0.37X + 2.0Y$  where:

- $X$  = in population
- $Y$  = number of persons per Household

### Trip Distribution:

$$T_{ij} = 34.7M - 0.46M^2 \text{ where:}$$

$T_{ij}$  = trips from city i to city j

$$M = \frac{P_i P_j^{1/2}}{D_{ij}}$$

$P_i$  = population of city i

$P_j$  = population of city j

## THE ENERGY DEVELOPMENT COMMUTING DISTRIBUTION GRAVITY MODEL

The gravity models used by APA Planning and Research to distribute the construction and operations work forces for the respective energy projects among the communities took the general form:

$$NL_i = \frac{A_i}{A_{Total}}$$

Where  $NL_i$  = The proportion of the work force (construction or operations) associated with a given project, residing in community  $i$ .

$A_i$  = The attractiveness of community  $i$ .

$A_{Total}$  = The sum of  $A_i$  over all the communities (in this case, Roosevelt/ Myton/Ballard, Vernal/Ashley Valley, and Rangely)

The values for  $A_i$  are determined by the function:

$$A_i = POP_i D_{ij}^{B_j}$$

Where  $A_i$  = Attractiveness of the community.

$POP_i$  = Population of community  $i$  (1980).

$D_{ij}$  = Distance between community  $i$  and project  $j$ .

$B_j$  = Commuting distance elasticity, which measures the responsiveness of workers to distance from the project site.

Studies by the authors of Characteristics and Settlement Patterns of Energy-Related Operating Workers in the Northern Great Plains and Construction Worker Profile produced a commuting distance elasticity ( $B_j$ ) of 1.019 for construction workers. This elasticity for construction workers was used in this study. It was assumed however, that given high gasoline prices and the relatively long distances from any community to the Uintah Basin synfuels projects, the more permanent operations workers would be more sensitive to travel. Therefore a commuting distance elasticity of 2.0 was used for operations workers.

VOLUME-TO-CAPACITY ANALYSIS

LEVEL-OF-SERVICE DEFINITIONS

# Two-Lane Highways

LEVELS OF SERVICE AND MAXIMUM SERVICE VOLUMES ON TWO-LANE HIGHWAYS UNDER UNINTERRUPTED FLOW CONDITIONS (NORMALLY REPRESENTATIVE OF RURAL OPERATION)

LEVEL OF SERVICE	TRAFFIC FLOW CONDITIONS			SERVICE VOLUME/CAPACITY (v/c) RATIO						MAXIMUM SERVICE VOLUME UNDER IDEAL CONDITIONS INCLUDING 70-MPH AHS (PASSENGER CARS, TOTAL BOTH DIRECTIONS, PER HOUR)
	Description	Operating Speed (mph)	PASSING SIGHT DISTANCE > 1,500 FT (%)	Basic Limiting Value* for v/c of 70 mph	Working Value for Restricted Average Highway Speed** of					
					60 mph	50 mph	45 mph	40 mph	35 mph	
A	Free flow	≥ 60	100	∞	—	—	—	—	—	400
			80	0.20	—	—	—	—	—	
			60	0.18	—	—	—	—	—	
			40	0.15	—	—	—	—	—	
			20	0.12	—	—	—	—	—	
			0	0.08	—	—	—	—	—	
B	Stable flow (upper speed range)	≥ 50	100	∞	∞	—	—	—	—	900
			80	0.45	0.40	—	—	—	—	
			60	0.42	0.35	—	—	—	—	
			40	0.38	0.30	—	—	—	—	
			20	0.34	0.24	—	—	—	—	
			0	0.30	0.18	—	—	—	—	
C	Stable flow	≥ 40	100	∞	∞	∞	—	—	1400	
			80	0.70	0.66	0.56	0.51	—		—
			60	0.68	0.61	0.53	0.46	—		—
			40	0.65	0.56	0.47	0.41	—		—
			20	0.62	0.51	0.38	0.32	—		—
			0	0.59	0.45	0.28	0.22	—		—
D	Approaching unstable flow	≥ 35	100	∞	∞	∞	∞	—	1700	
			80	0.85	0.83	0.75	0.67	0.58		—
			60	0.84	0.81	0.72	0.62	0.55		—
			40	0.83	0.79	0.69	0.57	0.51		—
			20	0.82	0.76	0.66	0.52	0.45		—
			0	0.81	0.71	0.61	0.44	0.35		—
E†	Unstable flow	30‡	Not applicable §	≤ 1.00					2000	
F	Forced flow	< 30‡	Not applicable §	Not Meaningful					Widely variable (0 to capacity)	

Source: Highway Capacity Manual, HRB SR 87, 1965, Table 10-7.

\* Operating speed and basic v/c ratio are independent measures of level of service; both limits must be satisfied in any determination of level.

\*\* Where no entry appears, operating speed required for this level is unattainable even at low volumes.

\* Capacity.

\* Approximately.

No passing.  
Demand volume capacity ratio may well exceed 1.00, indicating overloading.

### Levels of Service: Definitions

The six levels of service are generally described as follows for simple uninterrupted flows. More specific descriptions for each highway element, including interrupted as well as uninterrupted flow, are presented later under appropriate headings.

- (A): This is a condition of free-flow, accompanied by low volumes and high speeds. Traffic density will be low, with uninterrupted flow speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.
- (B): This occurs in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted. The lower limit (lowest speed, highest volume) of this level of service has been used in design of rural highways.
- (C): This is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes suitable for urban design practice.
- (D): This level of service approaches unstable flow, with tolerable operating speeds being maintained, though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low. These conditions can be tolerated, however, for short periods of time.



(E): This cannot be described by speed alone, but represents operations at lower operating speeds, typically, but not always, in the neighborhood of 30 miles per hour, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration. This level of service is associated with operation of a facility at capacity flows.

(F): This describes a forced-flow operation at low speeds, where volumes are below capacity. In the extreme, both speed and volume can drop to zero. These conditions usually result from queues of vehicles backing up from a restriction downstream. The section under study will be serving as a storage area during parts or all of the peak hour. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion.

## B I B L I O G R A P H Y

Colorado Traffic Volume Study - 1980, Colorado State Department of Highways

Utah Department of Transportation, Traffic on Utah Highways, 1977, 1979, 1981

Pignataro, Louis J., Traffic Engineering, 1973

Utah Department of Transportation, Utah State Rail Plan, Update 1980

Utah Department of Transportation, Utah State Airport System Plan, Update 1981

Ou, Fong L., Development of Intercommunity Travel Demand Forecasting Procedures for Utah Rural areas, August, 1980

Plummer, Ralph W., King, E., and Despande, Govind, "Development of Intercity Trip - Generation and Trip - Distribution Models for Rural Communities", TRR, 638, 1977

Jones, A.D., Grecco, W.L., "Simplified Procedure for Major Thorough-fare Planning in Small Urban Areas", HRR, 472, 1973

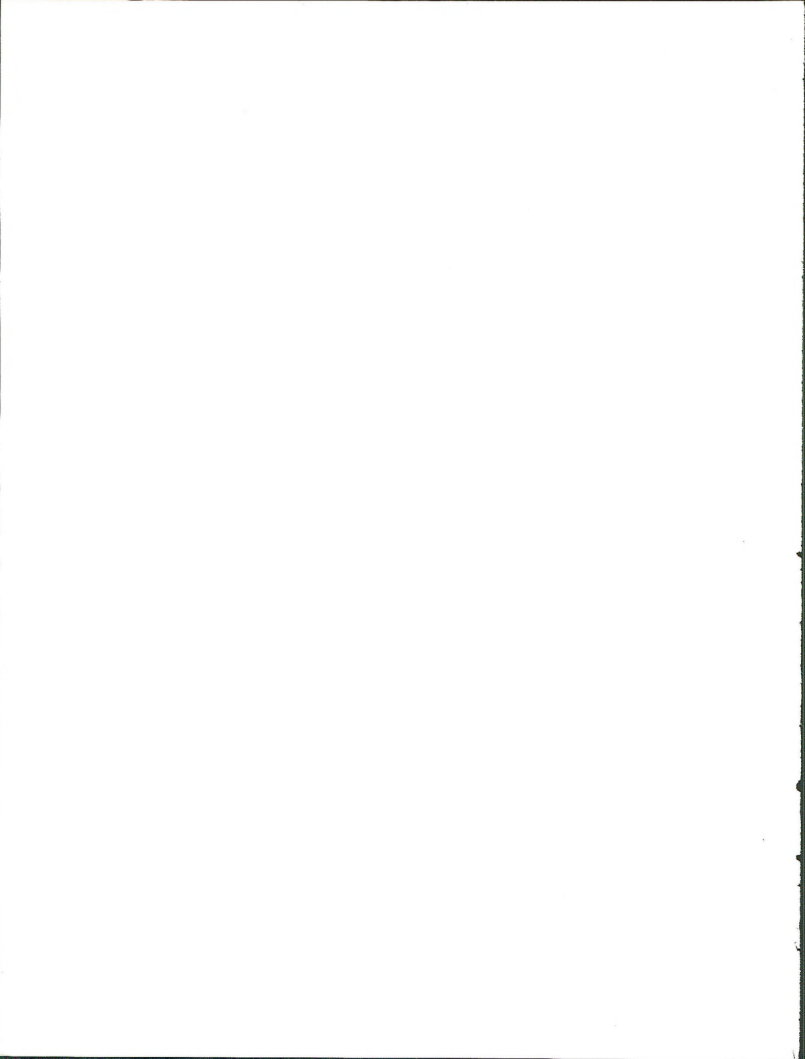
Van Wagoner & Associates, Inc., Uintah Basin Transportation Study, December, 1980

Utah Department of Transportation, "Assessment of Westwater's Impact on I-70", February 26, 1982, prepared by the Transportation Planning Division

☆U.S. GOVERNMENT PRINTING OFFICE:1982-579-853 / 347







Form 1279-3  
(June 1984)

BORROWER

TD 195 .895 US  
Socio-economic  
report for th

DATE LOANED	BORROWER

USDI - BLM

